

Water Supply Simulation Using HEC-5

August 1985

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13. ABSTRACT (Maximum 200 words)

This document is intended to assist users of computer program HEC-5 who are engaged in modeling surface water systems for water supply. Using a single reservoir operation for illustration, the document describes the input data needed to utilize a variety of analysis capabilities available in HEC-5. Input data for multiple reservoir systems are similar to those for single reservoirs but include certain data which specify the system linkages and operation. A description of this information is also included. Two appendices are part of the document. One describes HEC-5 automatic reservoir sizing and the other provides program output for the examples used in the text.

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WATER SUPPLY SIMULATION USING HEC-5

<u>Contents</u>

Foreword	11
List of Figures i	11
List of Tables i	111
List of Appendices i	11
Introduction	٦
Basic Reservoir System	2
Simulation Period Options	62 62 62 62
Required and Desired Flow Options	4 4 5 5
Seasonally varying conservation and buffer pools	5
Diversion Options	6 6 6 7 7
Optimization of required flow	7 8 9 9 10 10
Basic system specificationsParallel reservoir operation Tandem reservoir operation	10 10 11 11
· · · · · · · · · · · · · · · · · · ·	45 55

FOREWORD

This document is intended to assist users of computer program HEC-5 who are engaged in modeling surface water systems for water supply. Using a single reservoir operation for illustration, the document describes the input data needed to utilize a variety of analysis capabilities available in HEC-5. Input data for multiple reservoir systems are similar to those for single reservoirs but include certain data which specify the system linkages and operation. A description of this information is also included. Two Appendices are part of the document. The first describes the method of automatically determining conservation storage. It was felt that such an explanation would be useful since the capability exists in HEC-5 to derive a number of important reservoir parameters and a better understanding of the methodology would be helpful. A second Appendix contains summary output for the runs developed to illustrate input preparation.

All data in this document were developed for and output from the March 1985 version of HEC-5 on the Hydrologic Engineering Center's (HEC) Harris 500. Older versions of the computer program may require somewhat different input or give somewhat different output.

Preparation of the input data, analysis of output, and research into some of the methodology used by HEC-5 was performed by Chau-ling Tyan, graduate student at the University of California, Davis. Subsequent modifications and invaluable assistance was provided by Richard Hayes, Marilyn Hurst and Teresa Bowen of the HEC staff. Bill S. Eichert, author of HEC-5 and Director of the Hydrologic Engineering Center, gave generously of his time in developing the routines, debugging tests, and in review and editing.

LIST OF FIGURES

Figur	<u>e</u>	Page
1 2 3 4 5 6	Single Reservoir Water Supply System Reservoir Storage Levels and Volumes Seasonally Varying Conservation and Buffer Pools Seasonally Varying Desired Flows Three Reservoir Water Supply System Three Reservoir Storage Levels and Volumes	12 13 14 15 16 17
<u>Table</u>	LIST OF TABLES	
1 2 3 4 5 6 7 8 9 10 11 2 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	Reservoir Elevation, Storage, Outflow Data Monthly Reservoir Net Evaporation (inches) Monthly Desired Flow, Required Flow and Diversion (cfs) at Control Point 213 Monthly Reservoir Inflow (cfs) Basic Reservoir System (Run 1) Partial Record Simulation (Run 2) Critical Period Simulation (Run 3) Desired Flows Varied Monthly, Required Flows Constant (Run 4) Required Flows Vary Monthly, Desired Flows Constant (Run 5) Monthly Desired and Required Flows (Run 6) Desired Flows Vary by Period (Run 7) Required Flows Vary by Period (Run 8) Period Varying Desired and Required Flows (Run 9) Seasonally Varying Buffer and Conservation Pools (Run 10) Seasonally Varying Desired Flows (Run 11) Constant Diversion at Reservoir (Run 12) Monthly Diversion Downstream (Run 13) Diversion obwnstream Varies by Period (Run 14) Diversion at Reservoir a Function of Reservoir Storage (Run 15) Diversion of Flood Waters at Reservoir (Run 16) Diversion a Function of Inflow (Run 17) Optimization of Conservation Storage (Run 18) Optimization of Monthly Desired Flows (Run 20) Optimization of Monthly Diversion (Run 22) Optimization of All Reservoir Yields (Run 23) Basic Three Reservoir System (Run 24)	18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
	LIST OF APPENDICES	
A-2 A-3 A-4	Input Data for Optimization of Conservation Storage Optimization Routing Cycle 1, Trial 1 Starting and Ending Periods for Low-Flow Durations Optimization Summary Simulation Summary for All Periods	48 49 50 51 52

WATER SUPPLY SIMULATION USING HEC-5

Introduction

It is the purpose of this document to illustrate the use of computer program HEC-5, <u>Simulation of Flood Control and Conservation Systems</u>, for simulating the operation of surface water reservoirs for water supply. HEC-5 is a widely used, comprehensive, computer model which has been used for a wide range of applications in flood control and hydroelectric power. Modifications to the program over the past few years have extended and improved its capability for water supply purposes. This document describes and illustrates this capability.

The principal components of a surface water reservoir operation which are necessary for simulations include: streamflow records, including local inflow between gaged points; physical and operational characteristics of system storage facilities, and in-stream, diversion and operation requirements at control points within the system. These components are common to all surface water simulations regardless of purpose. What differs with each purpose is the nature of the streamflow, operational criteria, and demand. For water supply. low-flow periods are of special concern because it is during these periods that the possibility of not meeting water supply needs is greatest. Low-flows normally have the characteristic that they are relatively constant over a week or month period and therefore monthly streamflows are commonly used in simulation. Also, low-flows are commonly within channel and consequently routing criteria and water surface elevations, which are especially significant in flood control simulation, are of less importance in water supply. Yet, low-flow, because it is low, can be significantly affected by local inflow, effluent discharge from waste-water treatment plants, seepage to or from a river, evaporation and other manmade and natural phenomena. Operating criteria for water supply is principally concerned with meeting demands over prolonged low-flow periods (droughts). Determining which is the critical low-flow period is itself part of the task of water supply simulation. For most streamflow records a number of possible critical periods exist. In addition, criteria needs to be developed to distinguish between what is "desired" and what is "required". What is desired can be supplied when there is ample conservation storage in the reservoir to meet demands. Desired flows will be released when the reservoir pool elevation is above the buffer level. Required flows have a higher priority than desired flows and are attempted to be met when the reservoir storage level is between the buffer and inactive levels.

This document is designed to illustrate how HEC-5 input data are to be prepared to model a variety of features often desired for water supply simulation. For each feature a number of options exist. A simulation, for example, may be run for a period of record, partial record, or critical period. Desired and required flow requirements may be specified as constant for the simulation period, vary monthly or vary by period. The same three options exist for specifying diversions. In addition, diversion may be a function of reservoir storage, or inflow. Optimization capability exists for determining minimum conservation storage requirements given flow and diversion needs. Conversely, the dependable desired flow, required flow or diversion at a reservoir may be determined given a specified conservation storage. The capability also exists in the March 1985 version of the program to optimize the yield at a downwstream control point.

Most of the features and options described in this document are illustrated with single reservoir examples. They also apply to multiple-reservoir systems. Multiple-reservoirs also have operating features which are unique: parallel and tandem reservoir operations, for example. These features are also described and illustrated. Lastly, example output and the optimization methodology of the program are described in the Appendices.

Other capabilities at HEC which aid the user in creating input files are programs INFIVE and MATHPAK. INFIVE is an interactive program designed to generate a data file for input into the HEC-5 program. Through a series of questions and answers, a list of cards necessary to simulate the system is created, and optionally, variable names can be requested on a comment card for each card field.

MATHPAK allows the user to manipulate data stored in an HECDSS data file. The program can be useful in water supply simulations to compute natural flows, instream flows, diversions, etc., to be used as input into HEC-5.

A recent option to HEC-5 (but not illustrated in this document) is the capability to provide different priority releases by allowing reservoirs to be drawn down to a level specified on the CP card, field 7. This capability is in the March 1985 program version. More information on this option can be found in the March 1985 Exhibit 8 (Input Description).

Basic Reservoir System

Input data. Figure 1 shows a schematic diagram of a single reservoir system. One downstream control point is specified at Control Point (CP) 213. Water supply requirements at CP 213 are met from conservation storage releases at the reservoir. Figure 2 shows the storage levels and volumes for the reservoir. Conservation storage is 71,200 acre-feet with 1700 acre-feet of it in the buffer zone. Releases to meet downstream water supply requirements are made from conservation storage. Tables 1 through 3 show data on the reservoir and downstream flow requirements. The elevation-area-storage-outflow data are necessary to define reservoir storage levels, to compute the volume evaporated, and to determine outflows under flood conditions. Net evaporation (Table 2) multiplied times the reservoir surface area is the volume lost from storage. Negative evaporation values indicate rainfall in excess of evaporation is occurring. The monthly desired flows, required flows and diversions in Table 3 are the average monthly water supply requirements at control point 213.

Monthly streamflow into the reservoir is shown in Table 4. All values are monthly averages. They cover the period October 1927 to September 1937, a low-flow period in the streamflow record. The full record is 1927-1977.

The foregoing data constitute the basic reservoir system to be simulated. Table 5 shows these data as input for the HEC-5 simulation model. In addition various job control data are also specified. The reader is referred to the HEC-5 Users Manual, Exhibit 8, Input Description (March 1985), for instructions on the preparation of these data.

<u>Simulation Period Options</u>

It is often desired to select different periods of record for simulation or output. While the entire available record is commonly input, it may be that only a portion of that record is desired for computation or output. Two options exist for specifying shorter records: partial record and critical period. These, together with the option of using the entire record are described below.

Period of record. The basic reservoir system shown in Table 5 (Run 1) illustrates the use of a low-flow period for simulation. Partial HEC-5 output from Run 1 corresponding to Table 5 input is shown in Appendix B along with output from other examples (Runs 1-24). Data shown on the IN cards in Table 5 are inflow data to the reservoir for October 1927 to September 1937, a total of 120 monthly periods. The number of periods is specified in field 2 of the BF Card.

Partial record. The simulation period can be truncated and only part of the record used in the computations. This option is specified on the BF Card, field 6 (Table 6, Run 2). In this example the simulation period is truncated after 60 periods and only the first 60 monthly periods of inflow are used in the computations. See also description below of the use of negative value in field 5, J3 Card. This option should always be used to reduce computation time and output volume when making the first few runs for a new data set. When the operations and output are correct for the initial set of input (normally 12-30 periods), then the full period of simulation should be initiated by removing the ending period from field 6 of the BF card.

<u>Critical period</u>. Three options exist for selecting the period of low-flow referred to as the "critical period". The critical period can be selected from within the flow record (IN Cards) based upon the option specified. The three options are specified in field 5, J3 Card.

One option is to directly specify the critical period or any partial period desired. In this case the simulation output will be for the periods specified. Table 7 (Run 3) illustrates the option. A value, -10.060, is specified (J3 Card, field 5). This indicates the period to be simulated is from period 10 through 60 which corresponds to July 1928 through September 1932.

A second option for specifying critical period is to specify a specific reservoir drawdown duration. HEC-5 automatically examines the period of record and finds the beginning and ending periods for the duration specified corresponding to the minimum flow volume. To help insure the critical period is within this duration for the simulation run, five periods are added to the end and the beginning is set back to the first month of the simulation year (see Jl card, field 2). If the minimum flow duration is eight months (period 9 to 16) the ending period is extended five periods to period 21. If period 9 represents June 1928 and the month of the first monthly value of demand data (Jl, field 2) is January then the beginning period is extended back to January 1928. This procedure of extension helps to insure that the low-flow period is properly bracketed. To specify this option the duration desired is entered in field 5. J3 Card.

A third critical period option is to use as the duration a preselected multiplier times the ratio of conservation storage to mean annual flow. The multiplier automatically used by the program is 70. It has been found from looking at numerous projects throughout the United States, that a reasonable estimate of critical period duration is the numerical value of 70 times the specified ratio. If the ratio of conservation storage to mean annual flow were .2 then the duration for the simulation run would be 14 months (assuming a monthly simulation). The beginning and ending periods of this duration would be those which correspond to the minimum flow volume for the 14 months duration which is determined in HEC-5 by examining the whole period of record. This option may be specified by using a 1 or 2 in field 5, J3 Card.

Required and Desired Flow Options

Instream flow demands may be specified at control points within the system being simulated. They may represent a variety of low-flow requirements: minimum flows for fishery or wildlife, navigation, stream recreation, minimum water quality flows, and various other water supply conditions. Two types of low-flow may be specified: minimum desired and minimum required. Minimum desired flows are those which are the target when reservoir storage is above the top of the buffer level. When streamflow is low and reservoir storage is low (below the top of the buffer) the minimum required flow allows the user to cut-back and reduce requirements allowing minimum needs to be met until supplies are replenished.

Four options exist for specifying required or desired flow: constant, monthly, period by period or seasonally. A constant value means that the required or desired flow is the same for each time period in the simulation. A monthly specification allows required or desired flows to vary from month to month (but not year to year). A period by period specification allows the user to vary the flow by period throughout the period or record. For example, a monthly desired or required flow can be varied each month and each year for the entire simulation period. In the seasonal option, up to 18 seasons (in number of days from January 1) can be defined on the CS card. Minimum desired or required flows (on QM cards) can vary throughout the year and the release is based on the reservoir level for the specified season.

Constant required and desired flow. The basic reservoir system (Table 5) illustrates the specification of constant desired and required flows. These values, 400 cfs and 100 cfs respectively, are shown on the CP Card for control point 213.

Monthly required and desired flow. To change desired or required flows from a constant to a monthly varying value QM Cards are used. An example is shown in Table 8 (Run 4) for desired flow. In this example desired flow varies by month and required flow is a constant 100 cfs.

When required flow varies by month and desired flow is constant, or when both required and desired flow vary by month it is necessary to put in a fictitious control point because only one QM array is available for a given

control point. Whenever desired flow is specified either constant (CP Card, field 3) or monthly varying (QM Cards), this array is used. Therefore, when specifying a minimum required flow varying monthly it is necessary to create a fictitious control point to use the QM array. Table 9 (Run 5) illustrates the input for specifying monthly varying required flow with constant desired flow. The monthly required flows are entered on the QM Cards for the control point 213. A negative value (-1) is entered in field 4 of the CP Card to indicate that the QM Cards will be used for required flow instead of desired flow. The constant desired flow is shown in field 3 of the CP Card for dummy location 212. Table 10 (Run 6) illustrates the input data where both required and desired flows vary monthly.

Period varying required and desired flow. Tables 11, 12, and 13 illustrate the manner of specifying period by period desired and required flows. Each period is assigned a minimum flow value on an MR Card. In Table 11 (Run 7) the desired flow varies by period and the required flow is a constant 100 cfs. When required flows vary by period and desired flows are also used then a fictitious (dummy) control point must be specified because there is only one MR array and it is normally used by the desired flow. The use of dummy control points is illustrated in Tables 12 (Run 8) and 13 (Run 9). As in the monthly varying illustration (Tables 9 and 10) a -1 in field 4 of the CP Card is required to indicate period varying required flows.

Seasonally varying required and desired flows. In addition to desired or required flows varying monthly, the user can also specify a seasonal rule curve to vary required or desired flows. Figure 4, Table 15 (Run 11) illustrate this option. This example, using additional RL cards and a CS card, also shows a conservation pool varying by season, though this is not required to vary the releases seasonally. The CS card for location 213 defines the seasons for each year (for the CG and QM cards) and the CG card specifies the elevations corresponding to the defined seasons. Each minimum desired flow given on the QM card corresponds to one seasonal guide curve on the CG card. To vary required flows instead of desired flows, use a -1 in field 4 of the CP card as previously illustrated for monthly varying flows (Tables 9 and 10).

<u>Seasonally</u> varying conservation and buffer pools.

Table 14 (Run 10) and Figure 3 illustrate the option of varying storage allocation levels which change during the year. Additional RL cards are required for each level; the first field of the additional RL card indicates the reservoir level number; field 2 is the control point number, the varying storages are given on fields 5-10. A second additional RL card with storages in fields 5-10 can be used if more than six storages are required. Seasons are specified on the CS card if the seasons are not monthly: field one indicates the number of seasons, (maximum of 11), Fields 2-19 are the cumulative number of days from the beginning of the calendar year for each season which correspond to the storages on the additional RL cards. This example illustrates a common method of storage allocation in the west where less flood control storage is required in the dry summer months, thereby increasing the top of conservation pool (level 3, Jl.4) and top of buffer pools (level 2, Jl.6).

Diversion Options

Diversions allow water to be withdrawn from the main surface system to meet water supply needs elsewhere. There are three characteristics of a diversion which need to be specified: location, magnitude, and timing of source and return flow. A number of options exist for specifying each and these will be described and illustrated in the subsequent sections.

Diversions may be made at reservoirs and at downstream control points. Only one diversion can be made \underline{from} a given location, but any number of diversions can return \underline{to} a given location. Return flows must be downstream of the point of withdrawal (i.e., cards later in sequence) unless a special pumping option is specified (DR.7=-4). Both diversion and return flow locations must be designated as control points. Seepage from a river can be simulated by specifying a series of diversions at discrete control points along the river. The amount diverted at each point would equal the seepage rate for the reach of river represented by the point.

The magnitude of water diverted and returned may be expressed in several ways. It may be a direct quantity unrelated to anything except the water needs supplied by the diversion. Alternately, diversion may be a function of the flow at the control point; a function of the reservoir storage where water is diverted at a reservoir; or a function of off-peak energy in pumped storage projects. These options provide flexibility in relating diversions to in-stream and in-reservoir conditions.

Return flow is commonly expressed as a percentage of the diversion. This is usually adequate since what is returned is often a function of what is diverted. Thus, a 20% return could apply to each time period whether the diversion is constant, varies monthly, or by period. An additional characteristic of timing is the time lag or routing desired for return flow. When diverted flow travels out of the river and eventually returns, it may travel at a different rate than the river flow traveling from the diversion point to the return flow point. Consequently, routing criteria for the diverted flow may be specified on the DR card (only linear routing criteria can be used).

Constant diversion. Table 16 (Run 12) illustrates the use of the DR Card (field 8) to specify a constant diversion of 150 cfs each time period. A return flow of 20% is also specified (field 6). The flow is diverted at control point 4 and returned at control point 213 (fields 1 and 2). No routing is used either between the two control points or for the diversion (field 3, RT Card and DR Card).

Monthly varying diversion. A diversion varying by month may be specified by using the QD Card. This is illustrated in Table 17 (Run 13). Twelve monthly flow values are specified on the QD Cards beginning with January (Field 2, Jl Card). As shown in Table 17, field 7 of the DR Card is used to indicate that monthly diversions will be specified on QD cards for control point 213.

<u>Period varying diversion.</u> Period by period diversions are specified by using a -5 in field 7, DR Card. In this option the QD Cards, with period varying diversions, are inserted after the BF Card. Table 18 (Run 14) shows the input data for this option.

<u>Diversion as a function of reservoir storage</u>. Diversions are sometimes a function of reservoir storage. Such diversions must be at a reservoir and return flow must be downstream. Field 7 of the DR Card is used to indicate that diversions will be a function of storage. The value -2 is entered in field 7. The diversion rates are specified on the RD Card for corresponding storages on the RS Card. Table 19 (Run 15) illustrates this capability.

<u>Diversion of flood waters at a reservoir</u>. A variation of the reservoir storage option is to divert excess flood waters above the top of conservation pool. This may be specified in field 1 of the RD Card with a -1. This option can be useful in considering artificial recharge using flood waters. Using this option the quantity which may be diverted can be limited by the capacity of the diversion outlet. Also, in making the decision on how much to divert, the reservoir first meets the desired and required flow requirements at the reservoir (CP4). Example input are shown in Table 20 (Run 16).

<u>Diversion as a function of inflow</u>. Where it is desired to specify diversions at a control point as a function of inflow, a table of inflow versus diversion needs to be specified. In HEC-5 the diversion as a function of inflow option is indicated by a -1 in field 7, DR Card and the table of inflows and diversions are specified on the QS and QD Cards respectively. Table 21 (Run 17) illustrates the data required. Inflows at the control point are compared with data on the QS Card and corresponding diversion flows are determined from data on the QD Cards.

Diversion options also exist for pumping-diversion and an off-peak energy and pump-back storage diversion.

Optimization Options

In water supply planning it is often desired to know the minimum conservation storage required to meet reservoir or downstream flow and diversion requirements. The solution is an iterative process of assuming different storage volumes until the minimum storage is found that will meet requirements. The inverse is also common. Given a fixed storage volume, what is the maximum desired flow, required flow, or diversion which the reservoir will yield? In this case two of the three requirements are held fixed while the third is varied until the maximum is reached for a given reservoir storage. The maximum desired flow, for example, can be determined while holding the required flow and diversion constant.

The foregoing task of finding minimum conservation storage or maximum yield (desired flow, required flow or diversion) is handled in HEC-5 through its optimization capability. In addition to water supply yield the program can optimize monthly firm energy and monthly plant factors for hydropower. The time interval of inflow for optimizing must be monthly. Also, only single reservoirs or up to four independent reservoirs in a system can be optimized. Each reservoir must be optimized for its own independent set of flow requirements or conservation storage. At this time tandem reservoirs cannot be derived automatically in the same run. Optimization of an upstream reservoir for yield at a downstream control point can be accomplished in the March 1985 version of the program.

Optimization period options. The same options for selection of the simulation period discussed under "Simulation Period Options" are available using the optimization capability. These are period-of-record, partial record, and critical period. Period of record and partial record options are specified using the BF Card discussed previously. For the critical period, the options are specified on the J7 Card, Field 8 instead of on the J3 Card for non-optimizing runs (See Table 22, Run 18). These options include: specifying the time periods desired for the simulation run; specifying a monthly reservoir drawdown duration; and specifying a duration equal to 70 times the ratio of conservation storage to mean annual flow. These are referred to as the "critical period" options.

In addition to the options described in the preceding paragraph, there also exists the capability to simulate using several combinations of critical period and period of records simulations. For this option, a code is input in field 9, J7 Card (See Table 22). Five such options exist and are summarized below, however, it is strongly recommended that code 6 be used.

OPTIMIZATION OPTIONS FOR COMBINATIONS OF PERIODS

<u>Indicator (Field 9, J7 Card)</u>	Simulation Periods
0, 1	Optimize for period of record (flow data on IN Cards)
2	Optimize for critical period and period of record
3	Optimize for critical period and check with period of record (1 cycle)
4	Optimize for critical period, check with period of record; adjust critical period; optimize for adjusted critical period and check with period-of-record (2 cycles).
6	Make three cycles of adjusting, optimizing and checking as opposed to one and two cycles, as described above. (Recommended option)

These options allow for both critical period and period of record simulation. A check is made to see if the optimal storage (or flow, or diversion) computed for the assumed critical period can be maintained for the period of record. If the assumed critical period is in fact, the true critical period then the firm yield can be maintained for the period-of-record. If the drawdown using the period-of-record is greater than the drawdown using the assumed critical period, and not within the specified allowable error, then a new critical period is selected and the storage optimized. This capability also applies to optimizing desired flow, required flow and diversion.

Optimization of reservoir conservation storage. Table 22 (Run 18) illustrates the use of the J7 Card to specify the optimization routine for conservation storage. In field 1 a value of 4.0 specifies the location where optimization is to take place (control point 4), and that conservation storage above the top of buffer pool will be optimized (specified by .0.). Field 8 (value of 2) specifies the optimization will start with an initial critical duration equal to 70 times the ratio of conservation storage to mean annual flow. An allowable error ratio (positive and negative) of .05 is specified in field 10. This is the ratio of the storage error (difference between the target drawdown storage and the minimum storage in the simulation) to the total conservation storage above the target drawdown storage.

When reservoir storage is being optimized, the desired and required flow requirements may be specified for either the reservoir or a downstream control point. When optimizing for any yield (required or desired flow or diversions), the water yield being optimized is at the reservoir unless the downstream control point (J7, field 5) is specified.

The methodology used to optimize conservation storage is described and illustrated in Appendix A.

Optimization of desired flow. This optimization option determines the maximum desired flow available during the critical period or period of record given a specified volume of conservation storage. Other system requirements such as diversions and required flow are met as specified. Note however, that required flow is not competitive with desired flow because it is not drawn upon until the storage reaches the top of buffer at which time desired flow is no longer met.

Table 23 (Run 19) illustrates the input and output for this option. In field 1 of the J7 card a 4.2 is specified which indicated the desired flow (.2) at control point 4 (4.) will be optimized. The other input on the J7 Card are the same as used for the storage optimization. The monthly varying desired flow to be optimized is specified using the QM Card. Constant and period varying desired flow may also be optimized.

Table 24 (Run 20) illustrates input data necessary to optimize desired flow when it is varied by period. Data on the J7 Card remain unchanged from that described in the previous paragraph. The desired flows are required as input on the MR Cards in order to provide an initial estimate of the optimal flows and as a pattern for determining the optimal ratios of the MR Card values.

Optimization of required flow. This option determines the maximum required flow for the critical period or period of record that can be maintained through the period of historical flow data given a specified volume of conservation storage. Other system requirements such as diversions and desired flows are met as specified.

Table 25 illustrates the input required on the J7 Card to specify this option (Run 21). The 4.3 in field 1 specifies optimization of required flow at control point 4. The other input on the J7 Card are the same as for the storage optimization. An initial estimate of 200 cfs for the required flow (constant for each period) is input on the CP Card, field 4. Monthly and period varying required flow may also be optimized.

Optimization of monthly diversion. Optimization of diversion determines the maximum diversion flow for the critical period or period of record. A given volume of conservation storage, with other system requirements being met, is specified. Both desired and required flow requirements may be competitive with diversions since the diversion requirement applies to storage above and below the buffer level.

Table 26 (Run 22) shows the input required on the J7 Card. A 4.4 is used in field 1 to specify optimization of diversion (.4) at control point 4 (4.). The other input data on the J7 Card are the same as for the preceding optimization runs. An initial estimate of the monthly varying diversion is input on the QD Card. Subsequent estimates for the optimal values will be proportional to these initial estimates.

Optimization of all reservoir yields. By specifying a 4.9 in field l (Table 27, Run 23) of the J7 Card, all yields i.e., desired flow, required flow and diversion, are optimized for a given storage at the reservoir. Each of the yields is multiplied iteratively by the same constant until the drawdown storage is within the target error specified. All yields must be at the reservoir.

Optimization at a downstream control point. In addition to optimization of reservoir yields at the reservoir, yield can also be optimized at a downstream control point. This option is available in the March 1985 program version and is accomplished by inputting the downstream control point number to be optimized in field 5 of the J7 card.

Multiple Reservoir System Simulation

Basic system specifications. A multiple reservoir system is made up of individual reservoirs which operate either independently or in conjunction with the other reservoirs. The requirements for computer simulation are the same as for single reservoirs with the added requirement of linking the individual reservoirs together as required for system operations. The descriptions and examples for single reservoirs presented earlier in this document apply also to multiple reservoir systems. Linkages between reservoirs are additional specifications which are added to the single reservoir cards. To illustrate the input data necessary for a multiple reservoir system consider the three reservoir configuration shown in Figure 5. Storage levels and volumes for each reservoir are shown in Figure 6. To simulate the operation of this system using HEC-5 the input data listed in Table 28 (Run 24) was prepared. Note that all flows and volumes are in metric units (Field 1. J1 Card).

Parallel reservoir operation. Reservoirs are in parallel when they are on different streams above a common control point. All parallel reservoirs that are operated for a common downstream control point are operated as a system. In Figure 5 reservoir 2 is in parallel with reservoir 3. Reservoir 1 operates independently of reservoir 3; reservoir 2 operates with reservoir 3 to meet the requirements of control point 4. The operating criteria used by HEC-5 for parallel reservoirs can be illustrated by the system in Figure 5. Reservoir 3 will meet its own flow requirements and make releases for control point 4. Reservoir 2 will do the same. In operating jointly reservoirs 2 and 3 will make releases for control point 4 such that their levels are nearly the same at the end of each period. Releases are made from reservoirs beginning with the highest level. Thus, in Figure 6 releases are not made from reservoirs 1 and 3 until reservoir 2 reaches level 4, since reservoir 2 has storage in zone 4-5 and the other reservoirs do not.

Tandem reservoir operation. Reservoirs are in tandem when two or more reservoirs are on the same stream. They may operate independently of one another or as a reservoir system. In Figure 5 reservoirs 1 and 2 are in tandem with each other, reservoir 1 operates for downstream reservoir 2 and reservoir 2 operates for control point 4. Using HEC-5, two options are available for balancing the storage levels between reservoirs 1 and 2 (J2 Card. field 4). The first uses the storage index level for the downstream reservoir, the second the equivalent index level for the two tandem reservoirs. The equivalent index level is determined by weighting the level of each reservoir in a subsystem by the storage in the reservoir to determine a storage-weighted level for the subsystem. For the current time period the upstream tandem reservoir (reservoir 1) attempts to release water to draw its level to the previous period's index level (or equivalent level under option 2) for reservoir 2. With releases from reservoir 1 known for the current period, releases from reservoir 2 can be determined. The objective is to meet downstream flow requirements and keep the tandem reservoirs in balance. Depending upon the storage and flow requirements for the reservoirs this balancing may occur immediately or may take several time periods. The HEC-5 users manual presents an equivalent reservoir example.

Simulation of complicated water supply systems. When simulation results for complicated water supply models indicate shortages in meeting minimum flow demands while water supply storage exists in the system, a recycle option in HEC-5 (J2 card, field 4, include 32 in sum), can be used to provide better results. This code causes the program to recycle through the solution process twice (instead of once). It is suggested that this option be applied only when water supply simulation results are unsatisfactory, producing reservoir release error messages. Output error messages must be requested by including 4 (output error check) in the sum of values on the J3 card, field 1. For analyses it is helpful to request user-defined output tables with J8 cards which include a listing of shortages (codes .06, .08, and .31), for each control point with minimum flow or diversion requirements. The execution time for HEC5A may be increased by 100% by using this recycle option; it is suggested that it be used only after a complete review of the output indiates shortages are occurring. This option is available in the March 1985 version of the program and documented in the January 1985. Exhibit 8 of the HEC-5 Users Manual.

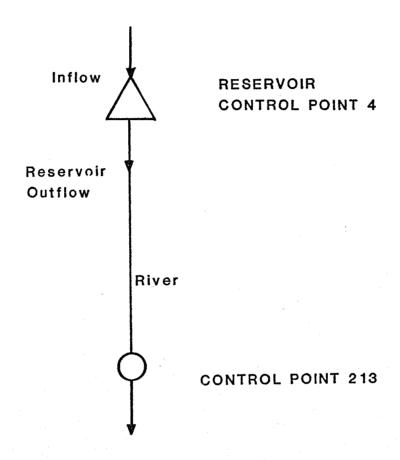


Figure 1. SINGLE RESERVOIR WATER SUPPLY SYSTEM

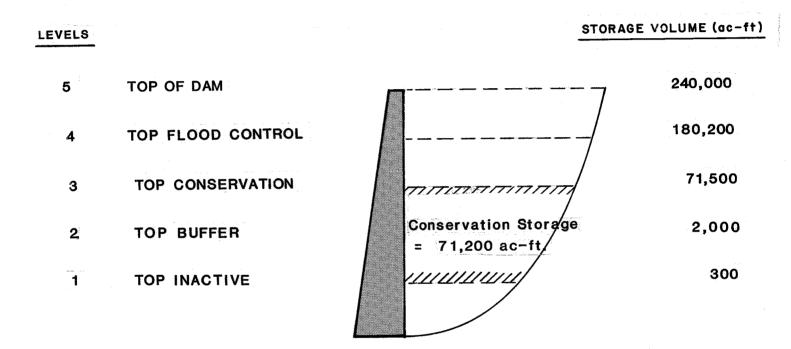


Figure 2. RESERVOIR STORAGE LEVELS AND VOLUMES

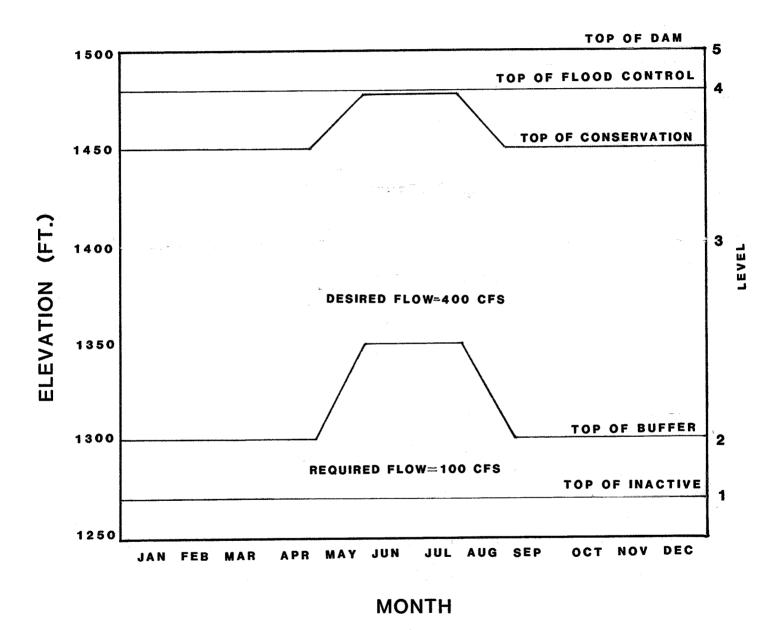


Figure 3. SEASONALLY VARYING CONSERVATION

AND BUFFER POOLS

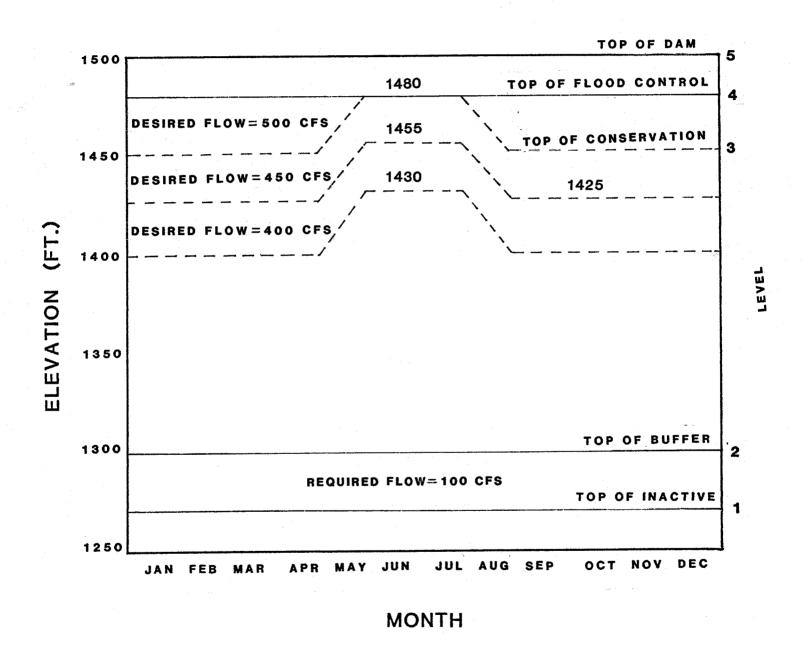


Figure 4. SEASONALLY VARYING DESIRED FLOW

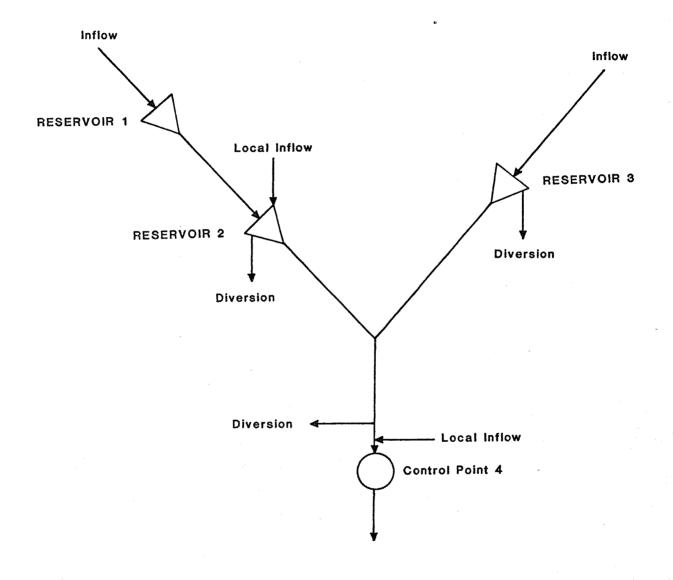


Figure 5. THREE RESERVOIR WATER SUPPLY SYSTEM

6 5, 4 3, 2, 1	Top Flood Control Top Conservation Top Buffer (= Top Inactive)	CONSERVATION STORAGE = 1,350 × 10 ⁸ M ³	VOLUME (10 ⁶ M ³ 4,210 3,330 1,980
		RESERVOIR 1	
6	Top Flood Control	m7	6,670
5	Tcp Conservation		3,760
4		CONSERVATION	3,320
3, 2	Top Buffer	1,170 × 10 ⁸ M ³	2,880
1	Top Inactive		2,590
		RESERVOIR 2	
6	Top Flood Control	87 7	2,440
5, 4	Top Conservation		1,540
3		CONSERVATION	1,325
2	Top Buffer	STORAGE 570 × 10 ⁶ M ³	1,110
1	Top Inactive		970
		RESERVOIR 3	

Figure 6 THREE RESERVOIR STORAGE LEVELS AND VOLUMES

TABLE 1

Reservoir Elevation, Area, Storage, Outflow Data

Reservoir

Elevation (ft.)	Area (Acre)	Storage (acre-feet)	Outflow (cfs)
1250.	0	0	0
1265.	20.	150.	100.
1280.	40.	580.	100.
1300.	80.	2000.	9000.
1325.	185.	5380.	10500.
1350.	350.	12020.	12000.
1370.	587.	21410.	13000.
1390.	800.	35560.	14000.
1410.	1040.	54300.	15000.
1430.	1390.	78340.	16000.
1450.	1830.	110,690.	17000.
1454.	1922.	118,140.	30000.
1458.	2014.	126,000.	54000.
1462.	2106.	134,200.	86000.
1466.	2198.	142,800.	128000.
1469.	2267.	149,700.	160000.
1472.	2336.	156,500.	198000.
1481.	2500.	180,200.	218000.

TABLE 2
Monthly Reservoir Net Evaporation (inches)

<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	-0.02	0.52	-2.63	-2.38

TABLE 3

Monthly Desired Flow, Required Flow and Diversion (cfs)

Control Point 213

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	Nov	<u>Dec</u>
Desired Flow	420	440	480	500	520	540	550	530	490	440	410	400
Required Flow	100	120	130	140	150	150	140	130	120	110	100	100
Diversion	150	140	120	100	100	100	100	100	100	100	140	150

TABLE 4

MONTHLY RESERVOIR INFLOW (cfs)
(Period 1 = Oct 1927; Period 120 = Sep 1937)

<u>Date</u>	<u>Period</u>	Inflow	<u>Date</u>	<u>Period</u>	<u>Inflow</u>	<u>Date</u>	Period	<u>Inflow</u>
Oct 19	27 1	1222.	Feb	41	669.	Jun	81	194.
Nov	2	1268.	Mar	42	878.	Jul	82	171.
Dec	3	497.	Apr	43	804.	Aug	83	513.
Jan 19	82 4	733.	May	44	367.	Sep	84	424.
Feb	5	647.	Jun	45	420.	0ct	85	620.
Mar	6	1385.	Jul	46	206.	Nov	86	1219.
Apr	7	999.	Aug	47	145.	Dec	87	566.
May	8	1365.	Sep	48	74.	Jan 19		354.
Jun	9	1308.	0ct	49	80.	Feb	89	1044.
Jul	10	360.	Nov	50	133.	Mar	90	763.
Aug	11	282.	Dec	51	475.	Apr	91	545.
Sep	12	176.	Jan 19		433.	May	92	388.
0ct	13	193.	Feb	53	530.	Jun	93	1177.
Nov	14	261.	Mar	54	1106.	Jul	94	252.
Dec	15	481.	Apr	55	506.	Aug	95	187.
Jan 19		431.	May	56	513.	Sep	96	179.
Feb	17	1130.	Jun	57	276.	0ct	97	872.
Mar	18	1230.	Jul	58	130.	Nov	98	697.
Apr	19	810.	Aug	59	77.	Dec	99	613.
May	20	283.	Sep	60	429.	Jan 19		331.
Jun	21	163.	0ct	61	1205.	Feb	101	3094.
Jul	22	150.	Nov	62	400.	Mar	102	820.
Aug	23	208.	Dec	63	438.	Apr	103	354.
Sep	24	608.	Jan 19		526.	May	104	268.
Oct Nov	25 26	614. 553.	Feb Mar	65 66	909.	Jun	105	126.
Dec	20 27	524.			1224.	Jul	106	65.
Jan 19		475.	Apr	67 68	655. 348.	Aug	107 108	43.
Feb	29	760.	May Jun	69	340. 212.	Sep Oct	108	140. 172.
Mar	30	891.	Jul	70	1032.	Nov	110	560.
Apr	31	491.	Aug	70 71	1237.	Dec	111	1004.
May	32	575.	Sep	72	524.	Jan 19		859.
Jun	33	373.	Oct	73	385.	Feb	113	679.
Jul	34	105.	Nov	73 74	354.	Mar	114	1282.
Aug	35	94.	Dec	75	712.	Apr	115	793.
Sep	36	75.	Jan 19		139.	May	116	793. 364.
0ct	37	76.	Feb	77	459.	Jun	117	270.
Nov	38	102.	Mar	7.8	1195.	Jul	118	319.
Dec	39	124.	Apr	79 79	550.	Aug	119	224.
Jan 193		164.	May	80	307.	Sep	120	753.

TABLE 5

T1 T2 T3 J1	H	INGLE REBASIC ROTHLY F	ESERVOIR	SYSTEM	#	RUN 20 PERIO 2				
J3 J6 J6	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J8 RL	4.11	4.22 71500	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.07	213.08	213.04
RO RS	18	213	150	580	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RS RQ RQ	78340 18 16000	110690 0 17000	118140 600 30000	126000 1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18	0	20	40	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RA RE RE	1390 18 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
CP ID	RES NO									
RT CP ID	213 C.P. 2	213 12000 13	400	100						
RT ED	213									
BF IN	2 40	120 ICT 1927		2	7100100		720			
NU	1222 282 163 491 669 475 1205 1237 194 545 3094 1004	1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 268 1282	647 481 614 420 506 909 712 620 187 126 793	1385 431 553 75 206 513 1224 139 1219 179 65 364	999 1130 524 76 145 276 655 459 566 872 43	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 6

T1 T2 T3 J1	i M	INGLE RE PARTIA ONTHLY F	L RECORD	SIMULAT	ION *		IN2 IDS)			
16 16 13	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J8 RL	4.11	4.22 71500	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.07	213.08	213.04
RO RS RS	18 78340	213 0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ	18	17000	20000 900	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA RA	18 1390	0 1830	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RE RE	18 1430	1250 1450	1265 1454	1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
CP ID	RES NO	8500	,		. 105			• • • •	•	
RT CP	213	213 12000	400	100						
ID RT	C.P. 2 213		•••							
ED BF	2	120		2	7100100	60	720	7		
IN IN		CT 1927 1268	497	733	647	1385	999	1365	1308	360
IN	282	176	193	261	481	431	1130	1230	810	283
IN In	163 491	150 575	208 317	608 105	614 94	553 75	524 76	475 102	760 124	891 164
IN	669	878	804	367	420	206	145	74	80	133
IN In	475 1205	433 400	530 438	1106 526	506 909	513 1224	276 655	130 348	77 212	429 1032
IN	1237	524	385	354	712	139	459	1195	550	307
IN In	194 545	171 388	513 1177	424 252	620 187	1219 179	566 872	354 697	1044 613	763 331
IN IN	3094 1004	820 859	354 679	268 1282	126 793	65 364	43 270	140 319	172 224	560 753
EJ ER	1004	9 J7	9/7	1402	173	J04	270	317	224	1 23

TABLE 7

T1 T2 T3 J1	¥	CRITIC	SERVOIR AL PERIO LOW 1927	D SIMULA	TION *	TEM RUN 3 20 PERIO 2	DS)			
13	<u> </u>				-10.060	<u>_</u>	7			
J6 -1. J6 -2.	. 59 . 63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
JB 4. RL	.11	4.22 71500	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.07	213.08	213.04
RO RS	18	213	150	580	2000	5380	12020	21410	35560	54300
RS 783 RQ RQ 160	340 18 000	110690 0 17000	118140 600 30000	126000 1000 54000	134200 9000 86000	142800 10500 128000	149700 12000 160000	156500 13000 198000	180200 14000 218000	15000
RA	18 390	1830	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RE	18 130	1250 1450	1265 1454	1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
CP ID RES RT CP	4 3 NO. 4 213 2. 21	8500 4 213 12000	400	100	1702	1400	1707	17/2	1701	
RT Z ED BF IN	213 2 400	120		2	7100100		720			
IN 12 IN 2 IN 4 IN 4 IN 12 IN 12 IN 13 IN 3	222 282 163 191 1669 175 205 237 194 545 194	1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 268 1282	647 481 614 94 420 506 909 712 620 187 126 793	1385 431 553 75 206 513 1224 139 1219 179 65 364	999 1130 524 76 145 276 655 459 566 872 43	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 8

T1 T2 T3 J1	* MO	DESIRED	SERVOIR FLOWS V LOW 1927 5	ARIED MO	NTHLY, R	EQUIRED 20 PERIO 2	FLOWS CO IDS)	NSTANT *	RUN 4	
13 14	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 J8 RL RO	-2.63 4.11 4	-2.38 4.22 71500 213	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.07	213.08	213.04
RS RS	18	213 0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ RQ	18 16000	17000	600 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18	0	20	40	80	185	350	587	800	1040
RA RE RE	1390 18 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	2106 1300 1462	2198 1325 1466	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410
CP ID	RES NO.									
RT	213	213 12000		100			***************************************			
ID RT	C.P. 21 213		100	5 00	500	P14			100	***
QM QM	420 410	440 400	480	500	520	540	550	530	490	440
ED BF IN	2 40C	120 T 1927			7100100		720			
IN In	1222 282	1268 176	497 193	733 261	647 481	1385 431	999 1130	1365 1230	1308 810	360 283
IN	163	150	208	808	614	553	524	475	760	871
IN In	491 669	575 878	317 804	105 367	94 420	75 206	76 1 45	102 74	124 80	164 133
IN	475	433	530	1106	506	513	276	130	77	429
IN	1205	400	438	526	909	1224	655	348	212	1032
IN In	1237 194	524 171	385 513	354 424	712 620	139 1219	459 566	1195 354	550 1044	307 763
IN	545	388	513 1177	252	187	179	872	697	613	331
IN In	3094 1004	820 859	3 54 679	268 1282	126 793	65 364	43 270	140 319	172 224	560 753
EJ ER	AVVT	937	0/7	1404	170	J0 4	2/0	317	227	1 00

TABLE 9

T1 T2 T3 J1	# #0	REQUIRE	SERVOIR D FLOWS LOW 1927 5	VARY MON	THLY , D	ESIRED F 20 PERIO 2	LOWS CON DS)	ISTANT. +	RUN	5
16 16	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J8 RL RO	4.11 4 2	4.22 71500 212	4.13 300 213	4.12 2000	4.10 71500	212.05 180200	212.06 240000	213.07	213.08	213.04
RS RS	18	0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35 5 60 180200	54300
RQ	18	0	600	1000	9000	10500	12000	13000	14000	15000
RQ	16000	17000	30000	54000	86000	128000	160000	198000	218000	4040
ra Ra	18 1390	0 1830	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RE	18	1250	1265	1280	1300	1325	1350	1370	1390	1410
RE	1430	1450	1454	1458	1462	1466	1469	1472	1481	
CP ID	ace No	8500								
RT	RES NO.	212								
CP	C.P. 21	12000	400	7						
ID	C.P. 21	2								
RT CP	212 213	213 12000		-1						1
ID	C.P. 21	3		•						1
RT	213									i
QM	100	120	130	140	150	150	140	130	120	110
ED	100	100								
BF	2	120		2	7100100		720			
BF IN	40C	T 1927								
IN	1222 282	1268	497	733	647	1385	999	1365	1308	360
IN In	282 163	176 150	193 208	261 608	481 614	431 553	1130 524	1230 475	810 760	283 891
ÎN	491	5 75	317	105	94	75	76	102	124	164
IN	669	878	804	367	420	206	145	74	80	133
IN	475	433	530	1106	506	513	276	130	77	429
IN In	1205 1237	400 524	438 385	526 354	909 712	1224 139	655 459	348 1195	212 550	1032 307
IN	194	171	513	334 424	620	1219	566	354	1044	307 763
IN	545	388	1177	252	187	179	872	697	613	331
IN	3094	820	354	268	126	65	43	140	172	560
IN EJ ER	1004	859	679	1282	793	364	270	319	224	753

TABLE 10

T1 T2 T3 J1	¥ M	INGLE RE IONTHLY IONTHLY F	DESIRED	AND REQU	IRED FLO	WS # 20 PERIO 2	RUN 6 DS)			
J3	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 JB RL	-2.63 4.11 4	-2.38 4.22 71500	4.13 300	4.12 2000	4.10 71500	212.05 180200	212.06 240000	213.07	213.08	213.04
RO RS	2 18	212 0	213 150	580	2000	5380	12020	21410	35560	54300
RS RQ	78340 18	110690	118140 600	126000 1000	134200 9000	142800 10500	149700 12000	156500 13000	180200	15000
RQ RA	16000	17000	30000 20	54000 40	86000 80 2106	128000 185 2198	160000 350 2267	198000 587 2336	218000 800 2500	1040
RA RE RE	1390 18 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
CP ID	RES NO	8500	1707	1700	1702	1400	4407	4474	1,01	
RT	4	212							. 	
CP ID	212 Dummy	12000 CP								l
RT	212	213	0							}
QM	420	440	480	500	520	540	550	530	490	440
QM	410	400								-
CP	213	12000		-i						į
ID	C.P. 2	13								Ì
RT QM	213 100	120	130	140	150	150	140	130	120	110
QM	100	100	130	170	100	170	140	130	120	***
ED	100	100		· · · • · · · · · · · · · · · · · · · ·						
BF	2	120		2	7100100		720			
IN	40	CT 1927								7/4
IN	1222	1268	497	733	647	1385	999	1365	1308 810	360 283
IN In	282 163	176 150	193 208	261 608	481 614	431 553	1130 524	1230 475	760	203 891
IN	491	575	317	105	94	75	76	102	124	1.44
IN	669	878	804	367	420	206	145	74	80	133 429
ÎN	475	433	530	1106	506	513	276	130	77	429
IN	1205	400	438	526	909	1224	655	348	212	1032
IN	1237	524	385	354	712	139	459	1195	550	307 763
IN	194	171	513	424 252	620	1219 179	566 872	3 54 697	1044 613	763 331
IN IN	545 3094	388 820	1177 3 54	252 268	187 126	65	43	140	172	560
IN	1004	859	679	1282	793	364	270	319	224	753
ËĴ	* 44.1	ww/	w,,			**'	_, ,			, = -
ER										

TABLE 11

T1 T2 T3 J1	l	SINGLE RE DESIRED ONTHLY F	FLOWS V	ARY BY P	ERIOD *	RU 20 PERIO 2	N 7 DS)			
J3 J6	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 JB RL RO	-2.63 4.11 4	-2.38 4.22 71500 213	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.07	213.08	213.04
RS RS	18 78340	110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ RQ	18	17000	400 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18	Ô	20	40	80	185	350	587	800	1040
RA RE RE	1390 18 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	2106 1300 1462	2198 1325 1466	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410
CP	RES N	8500				*****	7.2.			
RI	213	213 12000	0	100						
ID	C.P.	213	<u> </u>	100						
RT ED	213									
BF In	2 41	120 OCT 1927		2	7100100		720			
IN IN	1222 282	1268 176	497 193	733 261	647 481	1385 431	999 1130	1365 1230	1308 810	360 283
IN	163	150	208	608	614	553	524	475	760	891
IN IN	491 669	575 878	317 804	105 367	94 420	75 206	76 145	102 7 4	124 80	164 133
IN IN	475 1205	433 400	530 438	1106 526	506 909	513 1224	276 655	130 348	77 212	42 9 1032
IN	1237	524	385	354	712	139	459	1195	550	307
IN IN	194 545	171 388	513 1177	424 252	620 187	1219 179	566 872	354 697	1044 613	763 331
IN IN	3094 1004	820 859	354 679	268 1282	126 793	65 364	43 270	140 319	172 224	560 753_
MR	2130	OCT 1927								
MR MR	200 110	190 120	180 115	170 145	160 155	170 120	160 110	150 140	155 110	140 125
MR	110	140	160	180	175	165	150	140	145	155
MR MR	170 160	180 145	190 150	195 110	400 120	190 110	180 145	185 120	175 140	165 150
MR	110	115	140	145	120	115	100	110	105 260	110
MR MR	120 110	125 125	120 240	225 260	225 265	245 255	240 265	255 270	260	270 255
MR MR	160 110	145 115	150 140	110 145	120 120	110 115	145 100	120 110	140 105	150 110
MR	120	125	120	225	225	245	240	255	260	270
EJ ER	110	125	240	260	265	255	265	270	260	255

TABLE 12

T1 T2 T3 J1 J3	#	REQUIRE	SERVOIR D FLOWS LOW 1927	VARY BY	PERIOD *		IN 8 IDS)			
J6	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 JB RL RO	-2.63 4.11 4	-2.38 4.22 71500 212	4.13 300 213	4.12 2000	4.10 71500	212.05 180200	212.06 240000	213.07	213.08	213.04
RS	18	0	150	580	2000	5380	12020	21410	35560	54300
RQ	78340 18	110690	118140 600	126000 1000	134200 9000	142800 10500	149700 12000	156500 13000	180200 14000	15000
RQ RA	16000 1B	170 0 0 0	30000 20	54000 40	86000 80	128000 185	160000 350	198000 587	218000 800	
RA	1390	1830	1922	2014	2106	2198	2267	2336	2500	1040
RE RE CP	18 1430 4	1250 1450 8500	1265 1454	1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
ID	RES NO	. 4								
RT LCP	<u>4</u> 212	212 12000	400							
ID	DUNNY	CP		·						
RT CP	212 213	213 12000		-1						
ID.	C.P. 2	13								
RT ED	213									
BF	2	120		27	7100100		720			
IN In	1222	T 1927 1268	497	7 3 3	647	1385	999	1365	1308	360
IN	282	176	193	261	481	431	1130	1230	810	2 8 3
IN In	163 491	150 575	208 317	608 105	614 94	553 75	52 4 76	475 102	760 124	891 164
IN	669	878	804	367	420	206	145	74	80	133
IN	475	433	530	1106	506	513	276	130	77	429
IN In	1205 1237	400 524	438 385	526 354	909 712	122 4 139	655 459	348 1195	212 550	1032 307
IN	194	171	513	424	620	1219	566	354	1044	763
IN	545	388	1177	252	187	179	872	697	613	331
IN In	3094 1004	820 859	354 679	26 8 1282	126 7 9 3	65 364	43 270	140 319	172 224	560 753
MR	21300	T 1927								
MR MR	100 110	1 7 0 110	180 115	170 145	160 155	170	160 110	150	155	140
MR	110	140	160	180	175	110 165	150	140 140	110 145	115 155
MR	170	180	190	195	400	190	180	185	175	165
MR	160 110	145 115	150	110	110 110	110	145	110	140	150
MR	110	115	140 110	145 115	115	115 145	100 140	110 155	105 160	110 170
MR	110	115	140	160	165	155	165	170	160	155
MR MR	100 170	190 180	180 190	170	160	170	160	150	155	140
MR	160	145	170 150	195 110	400 110	190 110	180 145	185 110	175 140	165 150
MR	110	115	140	145	110	115	100	<u> 110</u>	105	110
EJ ER										

TABLE 13

T1 T2 T3 J1	¥	PERIOD V	RESERVOIR VARYING DI FLOW 192: L 5	SIRED A				RUN 9		
J3 J6	-1.59	-1.5	-2.03	-2.39		-0.36	-0.54	40	0.02	0.52
J6 J8 RL	-2.63 4.11	4.22 7150	2 4.13 300	4.12 2000		212.05 180200	212 .06 240000	213.07	213.08	213.04
RO RS RS	783 4 0	110690) 150) 118140	580 126000	134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ RQ RA	16000 16000 18	17000		1000 54000 40	86000	10500 128000 185	12000 160000 350	13000 198000 587	14000 218000 800	15000 1 04 0
RA RE	1390 18	1830 1250) 1922) 1265	2014 1280	2106	2198 1325	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410
	1430 RES N	8500 0.4)	1458	3 1402	1466	1407	17/2	1701	
CP ID	212 Dummy	12000								
RT CP	212 213	213 1200		-1						
RI	213	710								
BF In		OCT 1927	7		27100100		720		4700	7/4
IN IN IN	1222 282 163	170	193	733 261 608	481	1385 431 553	999 1130 524	1365 1230 475	1308 810 760	360 283 891
IN IN	491 669	579 871	317	105 367	5 94	75 206	76 145	102 74	124 80	164 133
IN In	475 1205	433 400	5 530 0 438	1106 526	5 909	513 122 4	276 655	130 348	77 212	429 1032
IN IN IN	1237 194 545	17:	l 513	354 424 252	620	139 1219 179	459 566 872	1195 354 697	550 1044 613	307 763 331
IN IN	3094 1004	820 850) 354 3 679	266 1282	3 126	65 364	43 270	140 319	172 224	560 753
MR MR	212 200 220	OCT 192 290 220	280	27(245	260 5 255	270 220	260 220	250 240	255 220	240 225
MR MR MR	220 220 270	240	260	280 295	275	265 290	250 250 280	240 285	245 275	255 265
MR MR	260 220	24: 22:	5 250 5 240	220 245	220 220	220 225	245 200	220 220	240 205	250 220
MR MR	220 220 200	22:	5 240	225 260 270	265	245 255 270	240 265 260	255 270 250	260 260 255	270 255 240
MR MR MR	220 220 220	220	225	245 280	5 255	220 265	220 220 250	240 240	220 245	225 255
MR MR	270 213	280 OCT 192) 290 7	295	5 400	290	280	285	275	265
MR	100	190) 180) 115	17(145 18(155	170 110 165	160 110 150	150 140 140	155 110 145	140 115 155
MR MR MR	170	180	190	195 11(5 400	190 110	180 145	185 110	175 140	165 150
MR MR	110 110	11	5 140 5 110	145 115	5 110 5 115	115 145	100 140	110 155	105 1 60	110 170
MR MR	110 100 170	19	5 140 0 180 0 190	160 170 195	160	155 170 190	165 160 180	170 150 185	160 1 55 175	155 140 165
MR MR MR	160 110	14	5 150	11(14:	110	110 115	145 100	110 110	140 105	150 110
EJ ER		- William								

TABLE 14

T1 T2 T3		* SEASO	RESRVOIR DNALLY VA LOW 1929	RYING BL	IPPLY SYS IFFER AND (365 PER	CONSERV	ATION PO	OLS *	10	
J1 J2		i i	5	3 32	1303 FEN 4	2		nun	10	
	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.5
J6 J8 _RL	-2.63 4.09	-2.38 4.38 110690	4.11	4.13	4.22	213.05	213.06	213.07	213.08	213.04
RL RL	1	4 4	-i 5		300 2000	12020	12020	2000	2000	
RL RL RL	2 3 4 5	4 4 4	5 -1 -1		110690 180200 240000	180000	180000	110690	110690	
RD RS	1 18	213	150	580	2000	5380	12020	21410	35560	1 54300
RS RQ	18	110690	118140 100	126000 100	134200 9000	142800 10500	156500 12000	180200 13000	240000 14000	15000
RQ RA	18	17000	30000 20	54000 40	86000 80	128000 185	198000 350	218000 587	218000 800	1040
RA RE	1390 18	1830 1250	1922 1265	2014 1280	2106 1300	21 98 1325	2336 1350	2500 1370	2600 1390	1410
RE CP	1430 4 RES 4	1450 8500	1454	1458	1462	1466	1472	1481	1500	
RT CS	4 5	213 120	151	240	265	365				
CP ID	213 C P 2	12000 13	400	100						
RT ED	213	***		20						
BF IN IN	2 4 1104	365 01JAN29 1090	1076	1062	9010100	1034	24 1020	1006	992	978
IN IN	964	950 810	936 792	922 774	908 757	894 739	880 722	866 704	852 687	838 669
IN IN	651	634 458	616 441	599 423	581 405	564 388	546 370	528 353	511 335	493 318
IN IN	300 247	283 243	279 239	275 235	271 231	267 227	263 223	259 219	255 215	251 211
IN In	207 167	203 163	199 162	195 162	191 161	187 161	183 160	179 160	175 159	171 159
IN IN	159 154	158 154	158 153	157 153	157 153	156 152	156 152	156 151	155 151	155 150
IN IN	150 112	148 109	145 99	142 99	135 98	130 96	125 94	119 94	117 92	113 91
IN IN IN	90 75 56	91 75 53	86 74 50	85 75 50	86 73 51	86 71 51	86 70 53	87 60	88 60 53	87 50 56
IN IN	55	59 46	50 47	50 43	54 43	53 43	55 43	52 55	58 43	50
IN IN	45 43 30	43 30	40 29	40 30	40 34	40 34	38 33	55 43 38 35 39 51 92 101 157	38 36	43 37 35 38
IN In	34 45	35 45	37 48	37	38 49	39 50	39 50	39 51	39	38 52
IN IN	88 98	88 90	89 96	49 89 99	90 91	39 50 92 98	91 100	92 101	52 93 105	52 95 107
IN In	128 150 167	135 150	140 151	144	147 155 175	150 157 177	151 159	157 161 180	159 163	161 165
IN IN IN	186	169 188	171 190	153 173 192	175 194 247	196	179 198	180 200 287	182 202	184 204
IN In	206 327	208 341 474	151 171 190 221 354 487	234 367 501	247 381 514	261 394 527	274 408 541	287 421 554	301 434 567	107 161 165 184 204 314 447 581 609
IN IN IN	461 594 609	608 609	608 610	608 610	60B 610	608 610	608 611	554 609 611	609 611	609 611
IN IN	611 613	611 614	612	612	612 607	612	612 603	613 601	613 599	613 597 577
IN In	595 575	593 573	611 591 571	609 589 569	587 567	605 585	583	581	579	577
ĒĴ ER					3	0				

T1 T2	* 5	EASONALL	ESERVOIR Y VARYIN	6 MINIMU	M DESIRE	D FLOW	*	*** *********************************		
73 J1 J2		DAILY FL 1	.OW 1929 5	RECORD 3 32	(365 PER 4	1005)		RUN	11	
13	-1.59	-1.54	-2.03	-2.39	-0.52	-0.34	-0.54	40	0.02	0.5
	-2.63 4.09	-2.38 4.38	4.11	4.13	4.22	213.05	213.06	213.07	213.08	213.04
RL	4	71500 4	-1		300					1
RL RL	2 3 4	4	-1 5		2000 110690	180000	180000	110690	110690	
RL RL	5	4	-1 -1		180200 240000			***		
RO RS RS	18 78340	213 0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 156500	21410 180200	35560 240000	54300
RQ RQ	18 16000	17000	100 30000	100 54000	9000 86000	10500 128000	12000 198000	13000 218000	14000 218000	15000
RA RA	18 1390	1830	20 1922	40 2014	80 2106	185 2198	350 2336	587 2500	800 2600	1040
RE RE	18 1430	1250 1450	1265 1454	1280 1458	1300 1462	1325 1466	1350 1472	1370 1481	1390 1500	1410
CP	4 RES 4	8500	e IVI	4.00						
RT	<u>4</u> 5	213 120	151	240	265	365	1			
CP ID	213 C P 21	12000 3		100			-			
CS	213 5	120	151	240	265	365	1			
CS	-1.40 -1.45	1400 1425	1430 1455	1430 1455	1400 1425	1400 1425				
QM	-1.50 -4	1450 400	1480 450	1480 500	1450	1450				
ED BF	2	365		2	9010100		24			
IN IN	1104 964	01JAN29 1090 950	1076 936	1062 922	1048 908	1034 894	1020 880	100 6 866	992 852	978 838
IN IN	824	810	792	774	757 581	739	722 546	704 528	687 511	669 493
IN IN	651 476	634 458	616 441	599 423 275	405	564 388	370	353 259	335 255	318 251
IN In	300 247	283 243	279 239	235	271 231	267 227	263 223	219	215	211
IN IN	207 167	203 163	199 162	195 162	191 161	187 161	183 160	179 160	175 159	171 159
IN In	159 154	158 154	158 153	157 153	157 153	156 152	156 152	156 151	155 151	155 150 113
IN In	150 112	148 109	145 99	142 99	135 98	130 96	125 94	119 94	117 92	91
IN IN	90 75	91	86 74	85 75	86 73	86 71	86 70	87 60	88 60	87 50
IN IN	56 55	75 53 59	50 50	50 50	51 54	51 53 43	53	52 55	53	56 50
IN	45	46	47 40	43 40	43 40	43 40	55 43	52 55 43 38 35	58 43 38	43 37
IN In	43 30	43 30	29	30	34	34	38 33	35 35	36	35
IN IN	34 45	35 45	37 48	37 49	38 49	39 50	39 50	39 51	39 52	38 52
IN In	88 98	88 90	89 96	89 99	90 91	92 98	91 100	51 92 101	93 105	95 107
IN In	128	135 150	140 151 171	144 153 173	147 155	150 157 177	151 159	157 161	159 163 182	161 165
IN IN	150 167 186	169 188	171 190	173 192	175 194	177 196	179 198	180 200	182 202	184 204
IN IN	206 327	208 341	190 221 354	234 367	247 381	261 394	274 408	287 421	301 434	314 447
IN IN	461 594	474 608	487 608	501 608	514 608	527 608	541 608	554 609	567 609	107 161 165 184 204 314 447 581 609 611
IN	609	609	610	610	610	610 612	611 612	611 613	611 613	611
IN IN	611	611 614	612 611	612 609	612 607	605	603	601	599	59 7
IN In	595 575	593 573	591 571	589 569	587 567	585	583	581	579	577
EJ ER					3	31				

TABLE 16

T1 T2 T3 J1	#	CONSTAN	SERVOIR IT DIVERS LOW 1927	ION AT R	ESERVOIR	TEM * 20 PERIO 2	RUN12 DS)			
]3]6]6	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J8 RL RO	4.11	4.22 71500 213	4.13 300	4.12 2000	4.10 71500	4.30 180200	4.03 240000	4.31	213.03	213.04
RS RS	18 78340	0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ RQ	18 16000	0 17000	600 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18 1390	1070	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RA RE	18	1830 1250	1265	1280	1300	1325	1350	1370	1390	1410
RE CP	1430	1450 8500	1454	1458	1462	1466	1469	1472	1481	
ID	RES NO	. 4								
RT	4	213								
-	i					A 6		484	7	
DR	4	213	400	100		0.2		150	1	
CP ID	213 C.P. 2	213 12000	400	100		0.2		150	1	
CP ID RT	213	213 12000	400	100		0.2		150	1	
CP ID RT ED	213 C.P. 2 213	213 12000 13	400		7100100	0.2	720	150	1	
CP ID RT ED BF IN	213 C.P. 2 213	213 12000 13 120 CT 1927	•••	2					1700	740
CP ID RT ED BF IN IN	213 C.P. 2 213 213 2 40	213 12000 13 120 CT 1927 1268	497	2 733	647	1385	999	1365	1308	360 283
CP ID RT ED BF IN IN	213 C.P. 2 213 213 2 40 1222 282	213 12000 13 120 CT 1927 1268 176 150	497 193 208	2		1385 431 553		1365 1230 475	B10 760	283 891
DR CP ID RT ED BF IN IN IN	213 C.P. 2 213 2 2 40 1222 282 163 491	213 12000 13 120 CT 1927 1268 176 150 575	497 193 208 317	733 261 608 105	647 481 614 94	1385 431 553 75	999 1130 524 76	1365 1230 475 102	810 760 124	283 891 164
CP ID RT ED BH IN IN IN IN	213 C.P. 2 213 2 40 1222 282 163 491 669	213 12000 13 120 CT 1927 1268 176 150 575 878	497 193 208 317 804	733 261 608 105 367	647 481 614 94 420	1385 431 553 75 206	999 1130 524 76 145	1365 1230 475 102 74	810 760 124 80	283 891 164 133
DR CP ID RTD BF IN IN IN IN	213 C.P. 2 213 2 40 1222 282 163 491 669 475	12000 13 12000 13 12000 13 170 170 170 170 170 170 170 170 170 170	497 193 208 317 804 530	733 261 608 105 367 1106	647 481 614 94 420 506	1385 431 553 75 204 513	999 1130 524 76 145 276	1365 1230 475 102 74 130	810 760 124	283 891 164 133 429
CP IT	213 C.P. 2 213 2 213 2 40 1222 282 163 491 669 475 1205 1237	12000 13 12000 13 120 CT 1927 1268 176 150 575 878 433 400 524	497 193 208 317 804 530 438	733 261 608 105 367 1106 526 354	647 481 614 94 420 506 909 712	1385 431 553 75 206 513 1224 139	999 1130 524 76 145 276 655 459	1365 1230 475 102 74 130 348 1195	810 760 124 80 77 212 550	283 891 164 133 429 1032 307
CP LT	213 C.P. 2 213 2 213 2 40 1222 282 163 491 649 475 1205 1237 194	213 12000 13 120 CT 1927 1268 176 150 575 878 433 400 524 171	497 193 208 317 804 530 438	733 261 608 105 367 1106 526 354 424	647 481 614 94 420 506 909 712 620	1385 431 553 75 206 513 1224 139 1219	999 1130 524 76 145 276 655 459	1365 1230 475 102 74 130 348 1195	810 760 124 80 77 212 550 1044	283 891 164 133 429 1032 307 763
CP IDR CP IN THE IN THE INTERPOLATION INTERPOLATION INTERPOLATION IN THE INTERPOLATION INTERPOLATION INTERPOLATION INTERPOLATION INTERPOLATION INTERPOLATION INTERPOLATION INTERP	213 C.P. 2 213 2 213 2 240 1222 282 163 491 669 475 1205 1205 1237 194 545	213 12000 13 12000 13 120 1727 1268 176 150 575 878 433 400 524 171 388	497 193 208 317 804 530 438 385 513	733 261 608 105 367 1106 526 354 424 252	647 481 614 94 420 506 909 712 620	1385 431 553 75 206 513 1224 139 1219	999 1130 524 76 145 276 655 459 566 872	1365 1230 475 102 74 130 348 1195 354 697	810 760 124 80 77 212 550 1044 613	283 891 164 133 429 1032 307 763 331
CP LT	213 C.P. 2 213 2 213 2 40 1222 282 163 491 649 475 1205 1237 194	213 12000 13 120 CT 1927 1268 176 150 575 878 433 400 524 171	497 193 208 317 804 530 438	733 261 608 105 367 1106 526 354 424	647 481 614 94 420 506 909 712 620	1385 431 553 75 206 513 1224 139 1219	999 1130 524 76 145 276 655 459	1365 1230 475 102 74 130 348 1195	810 760 124 80 77 212 550 1044	283 891 164 133 429 1032 307 763

TABLE 17

T1 T2 T3 J1	* M	MONTHLY	SERVOIR DIVERSI LOW 1927	ON DOWNS	TREAM *	RUN13 20 PERIO 2	DS)				
J3 J6	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52	
J6 J8 RL RO	-2.63 4.11 4	-2.38 4.22 71500 213	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.30	213.03	213.04	
RS RS RQ	18 78340 18	110690	150 118140 600	580 126000 1000	2000 134200 9000	5380 142800 10500	12020 149700 12000	21410 156500 13000	35560 180200 14000	54300 15000	
RQ RA	16000	17000	30000 20	54000 40	86000 80	128000 185	160000 350	198000 198000 587	218000 800	1040	
RA RE	1390 18	1830 1250	1922 1265	2014 1280	2106	2198 1325	2267	2336	2500	1410	
RE	1430	1450	1454	1458	1300 1 462	1466	1350 1469	1370 1472	1390 1481	1410	
	RES NO										
RT CP ID	213 C.P. 2	213 12000	400	100							
RT	213	13									_
DR QD QD	213 12 100	150 140	140 150	120	100	100	100	100	100	100	
ED BF IN	2 40	120 CT 1927			7100100		720				_
IN In	1222 282	1268 176	497 193	733 261	647 481	1385 431	999 1130	1365 1230	1308 810	360 283	
IN	163	150	208	608	614	553	524	475	760	891	
IN IN	491 669	575 878	317 804	105 367	94 420	75 206	76 145	102 74	124 80	164 133	
IN	475	433	530	1106	506	513	276	130	77	429	
IN In	1205 1237	400 524	438 385	526 354	909 712	1224 139	655 459	348 1195	212 550	1032 307	
IN	194	171	513	424	620	1219	566	354	1044	763	
IN	545	388	1177	252	187	179	872	697	613	331	
IN In	30 94 1004	820 859	354 679	268 1282	126 793	65 364	43 270	140 31 9	172 224	560 753	
EJ Er											

TABLE 18

T1 T2 T3 J1	# M	DIVERSIC	SERVOIR ON DOWNST LOW 1927 5	ream var	IYS BY PE	RIOD* 20 PERIO 2	RUN 1 DS)	4		
	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 J8 RL RO		-2.38 4.22 71500 213	4.13 300	4.12 2000	4.10 71500	213.05 180200	213.06 240000	213.30	213.03	213.04
RS RS	18	110690	150 118140	580 126000	2000 134200	53 8 0 142800	12020 149700	21410 156500	35560 180200	54300
RQ RQ	18 16000	17000	600 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18	0	20	40	80	185	350	587	800	1040
ra Re	1390 18	1830 1250	1922 1265	2014 1280	2106 1300	21 98 1325	2267 1350	2336 1370	2500 1390	1410
RE CP	1430 4	1450 8500	1454	1458	1462	1466	1469	1472	1481	
ÎD Rt	RES NO.									
CP	213	12000	400	100						
RT	C.P. 2 213	13						_		
DR ED	213					800L3/\\800L3\\	-5			
BF IN	2	120 CT 1927		2	7100100		720			
IN	1222	1268	497	733	647	1385	999	1365	1308	360
IN In	282	176	193 208	261 608	481 614	431 553	1130 524	1230 475	810 760	283 891
	163	150								
IN	163 491	150 575	317	105	94	75	76	102	124	164
IN IN	491 669	575 878	317 804	105 367	94 420	75 206	76 145	102 74	80	133
IN IN IN IN	491 669 475 1205	575 878 433 400	317 804 530 438	105 367 1106 526	94 420 506 909	75 206 513 1224	76 145 276 655	102 74 130 348	80 77 212	133 429 1032
IN IN IN IN	491 669 475 1205 1237	575 878 433 400 524	317 804 530 438 385	105 367 1106 526 354	94 420 506 909 712	75 206 513 1224 139	76 145 276 655 459	102 74 130 348 1195	80 77 212 550	133 429 1032 307
IN IN IN IN IN	491 669 475 1205 1237 194 545	575 878 433 400 524 171 388	317 804 530 438 385 513 1177	105 367 1106 526 354 424 252	94 420 506 909 712 620 187	75 206 513 1224 139 1219 179	76 145 276 655 459 566 872	102 74 130 348 1195 354 697	80 77 212 550 1044 613	133 429 1032 307 763 331
IN IN IN IN IN IN	491 669 475 1205 1237 194 545 3094	575 878 433 400 524 171 388 820	317 804 530 438 385 513 1177 354	105 367 1106 526 354 424 252 268	94 420 506 909 712 620 187 126	75 206 513 1224 139 1219 179 65	76 145 276 655 459 566 872 43	102 74 130 348 1195 354 697	80 77 212 550 1044 613 172	133 429 1032 307 763 331 560
IN IN IN IN IN IN IN	491 669 475 1205 1237 194 545 3094 1004	575 878 433 400 524 171 388 820 859 CT 1927	317 804 530 438 385 513 1177 354 679	105 367 1106 526 354 424 252 268 1282	74 420 506 909 712 620 187 126 793	75 206 513 1224 139 1219 179 65 364	76 145 276 655 459 566 872 43 270	102 74 130 348 1195 354 697 140 319	80 77 212 550 1044 613 172 224	133 429 1032 307 763 331 560 753
IN IN IN IN IN IN IN OD	491 669 475 1205 1237 194 545 3094 1004 21300	575 878 433 400 524 171 388 820 859 CT 1927 190	317 804 530 438 385 513 1177 354 679	105 367 1106 526 354 424 252 268 1282	74 420 506 909 712 620 187 126 793	75 206 513 1224 139 1219 179 65 364	76 145 276 655 459 566 872 43 270	102 74 130 348 1195 354 697 140 319	80 77 212 550 1044 613 172 224	133 429 1032 307 763 331 560 753
IN I	491 669 475 1205 1237 194 545 3094 1004 21300 210	575 878 433 400 524 171 388 820 859 CT 1927 190 120	317 804 530 438 385 513 1177 354 679	105 367 1106 526 354 424 252 268 1282	74 420 506 909 712 620 187 126 793	75 206 513 1224 139 1219 179 65 364	76 145 276 655 459 566 872 43 270	102 74 130 348 1195 354 697 140 319	80 77 212 550 1044 613 172 224	133 429 1032 307 763 331 560 753
IN I	491 4669 475 1205 1237 194 545 3094 21300 2100 110 110	575 878 433 400 524 171 388 820 859 CT 1927 190 120 140 180	317 804 530 438 385 513 1177 354 679 180 115 160 190	105 367 1106 526 354 424 252 268 1282 170 145 180 195	74 420 506 709 712 620 187 126 793 160 155 175 200	75 206 513 1224 139 1219 179 65 364 170 120 165 190	76 145 276 655 459 566 872 43 270 160 110 150 180	102 74 130 348 1195 354 697 140 319 150 140 140 185	80 77 212 550 1044 613 172 224 155 110 145 175	133 429 1032 307 763 331 560 753 140 125 155 165
IN I	491 4669 475 1205 1237 194 545 3094 21300 200 110 110 170 160	575 878 433 400 524 171 388 820 859 CT 1927 190 120 140 180 145	317 804 530 438 385 513 1177 354 679 180 115 160 190 150	105 367 1106 526 354 424 252 268 1282 170 145 180 195	74 420 506 709 712 620 187 126 793 160 155 175 200 120	75 206 513 1224 139 1219 179 65 364 170 120 165 190 110	76 145 276 655 459 566 872 43 270 160 110 150 180 145	102 74 130 348 1195 354 697 140 319 150 140 140 185	80 77 212 550 1044 613 172 224 155 110 145 175 140	133 429 1032 307 763 331 560 753 140 125 155 165 150
IN I	491 4669 475 1205 1237 194 545 3094 21300 110 110 110 110 120	575 878 433 400 524 171 388 820 859 1727 190 120 140 145 115	317 804 530 438 385 513 1177 354 679 180 115 160 190 190 120	105 367 1106 526 354 424 252 268 1282 170 145 180 195 110 145 225	74 420 506 709 712 620 187 126 793 160 155 175 200 120 120 225	75 206 513 1224 139 1219 179 65 364 170 120 165 190 110 115 245	76 145 276 655 459 566 872 43 270 160 110 150 180 145 100 240	102 74 130 348 1195 354 697 140 319 150 140 140 185 120 110 255	80 77 212 550 1044 613 172 224 155 110 145 140 105 260	133 429 1032 307 763 331 560 753 140 125 155 165 150 110 270
IN I	491 4669 475 1205 1237 194 545 3094 1004 21300 110 110 110 110 110 110	575 878 433 400 524 171 388 820 859 1727 190 120 140 180 145 115 125	317 804 530 438 385 513 1177 354 679 180 115 160 170 150 140 120 240	105 367 1106 526 354 424 252 268 1282 170 145 180 195 110 145 225	74 420 506 709 712 620 187 126 793 160 155 175 200 120 120 225 265	75 206 513 1224 139 1219 179 65 364 170 120 165 190 110 115 245 255	76 145 276 455 459 566 872 270 160 110 150 185 100 240 265	102 74 130 348 1195 354 697 140 319 150 140 140 185 120 110 255 270	80 77 212 550 1044 613 172 224 155 110 145 175 140 105 260 260	133 429 1032 307 763 331 560 753 140 125 155 165 150 110 270 255
IN I	491 4669 475 1205 1237 194 545 3094 1004 2130 110 110 110 120 110 120 110	575 878 433 400 524 171 388 820 859 CT 1927 190 140 140 145 115 125 125 145	317 804 530 438 385 513 1177 354 679 180 115 160 190 150 140 120 240 150	105 367 1106 526 354 424 252 268 1282 170 145 180 195 110 145 225 2260 110	74 420 506 909 712 620 187 126 793 160 155 175 200 120 225 225 120	75 206 513 1224 139 1219 179 364 170 120 165 190 115 245 255	76 145 276 459 566 872 270 160 110 150 145 100 246 145	102 74 130 348 1195 354 697 140 319 150 140 185 120 255 270 120	80 77 212 550 1044 613 172 224 155 110 145 145 140 260 260 240	133 429 1032 307 763 331 560 753 140 125 155 165 110 270 275 150
00000000000000000000000000000000000000	491 4669 4755 1205 1237 194 545 3094 21300 110 110 110 120 110 120	575 878 433 400 524 171 388 820 859 1727 190 140 145 115 125 145 115	317 804 530 438 385 5137 354 679 180 115 160 170 120 240 150 140 120	105 367 1106 526 354 424 252 268 1282 170 145 180 195 110 145 225 260 110 115 225	74 420 506 909 712 620 187 126 793 160 155 175 200 120 120 225 265 120 120 225	75 206 513 1224 139 1219 179 65 364 170 165 190 110 115 245 110 1245	76 145 276 655 459 566 872 270 160 1150 180 145 100 240 245 145 120 240	102 74 130 348 1195 354 697 140 319 150 140 185 120 110 255 270 120 120 1255	80 77 212 550 1044 613 172 224 155 110 145 175 140 105 260 140 140 140 1260	133 429 1032 307 763 331 560 753 140 125 155 165 150 110 270 270
NNI	491 4669 475 1205 1237 194 545 3094 1004 21300 110 110 110 120 110 110 110 110 110 1	575 878 433 400 524 171 388 820 859 1 1927 120 140 145 115 125 125 115	317 804 530 438 385 513 1177 354 679 180 1150 140 120 240 150 140	105 367 1106 526 354 424 252 268 1282 170 145 180 195 110 145 225 260 110	74 420 506 909 712 620 187 126 793 160 155 175 200 120 120 225 265 120 120	75 206 513 1224 139 1219 179 364 170 120 165 190 115 245 255	76 145 276 655 459 566 872 270 160 1100 145 100 240 245 145	102 74 130 348 1195 354 697 140 319 150 140 185 120 110 255 270 110	80 77 212 550 1044 613 172 224 155 110 145 140 105	133 429 1032 307 763 331 560 753 140 125 155 165 150 110 270 255 150 110

TABLE 19

T1 T2 T3 J1	# M(DIVERSI	SERVOIR ON AT RE LOW 1927 5	SERVOIR	A FUNCTI	ON OF RE 20 PERIO 2	SERVOIR DS)	STORAGE	* RUN	15
	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J6 J8 RL RO	-2.63 4.11 4	-2.38 4.22 71500 213	4.13 300	4.12 2000	4.10 71500	4.03 180200	213.03 240000	213.05	213.06	213.04
RS RS	18 78340	110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ	18 16000	17000	30000 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA RA	18 1390	1830	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RE RE	18 1430	1250 1450	1265 1454	1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
RD RD	120	0 150	0 150	0 150	0 150	20 150	40 150	60 150	80 150	100
CP	RES NO.	8500		100	100					
RT	4	213	0							
DR	4	213				0.2	-2			
CP ID RT ED	213 C.P. 2: 213	12000 13	400	100						
BF IN	2 400	120 CT 1927		2	7100100		720			
IN	1222	1268	497	733	647	1385	999	1365	1308	360
IN	282	176	193	261	481	431	1130	1230	810	283
IN	163	150	208	908	614	553	524	475	760	891
IN	491	575	317	105	94	75	76 145	102 74	124 80	164 133
IN	669 475	878	804 530	367 1106	420 506	206 513	276	130	77	133 429
IN In	1205	433 400	438	526	909	1224	655	348	212	1032
IN	1237	524	385	354	712	139	459	1195	550	307
IN	194	171	513	424	620	1219	566	354	1044	763
ĪN	545	388	1177	252	187	179	872	697	613	331
IN	3094	820	354	268	126	_65	43	140	172	560
IN EJ ER	1004	859	679	1282	793	364	270	319	224	753

TABLE 20

T1 T2 T3 J1	*	DIVERSI	SERVOIR ON OF FL LOW 1927 5	ODD WATE	RS AT RE		* RUN DS)	16			
16 13	-1.59	-1.54	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52	
J8 RL	-2.63 4.11 4	-2.38 4.22 71500	4.13 300	4.12 2000	4.10 71500	4.03 180200	213.03 240000	4.05	4.06	213.04	
RO RS RS		213 0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300	
RQ RQ RA	18 16000 18	17000 0	400 30000 20	1000 54000 40	9000 86000 80	10500 128000 185	12000 160000 350	13000 198000 587	14000 218000 800	15000 1040	
RA RE RE	1390 18 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	2106 1300 1462	2198 1325 1466	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410	
RD RD	-1 1000	100 1100	200 1200	300 1300	400 1400	500 1500	600 1600	700 1700	800 1800	900	
CP ID RT DR	4	213	400	100	1						
CP	213 C.P. 2 213	213 12000 13	***************************************			0.2					
	213										
BF IN IN	2 40	120 CT 1927 1268.	497.	2 733.	7100000 647.	1385.	720 999.	1365.	1308.	360.	

TABLE 21

T1 T2 T3 J1	* M	DIVERSI	SERVOIR ION A FUN LOW 1927 5	CTION OF	INFLOW					
16 16	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J8 RL RO	4.24	4.11 71500 213	4.22 300	4.13 2000	4.12 71500	4.10 180200	4.03 240000	213.03	213.06	213.04
RS RS	18 78340	0 110690	150 118140	580 126000	2000 13 420 0	5380 142800	12020 149700	21410 156500	35560 1 8 0200	54300
RQ RQ	18 16000	0 17000	30000 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA	18	0	20	40	80	185	350	587	800	1040
ra Re	1390 18	1830 1250	1922 1265	2014 1280	2106 1300	21 98 1325	2267 1350	2336 1370	2500	1410
RE	1430	1450	1454	1458	1462	1466	1469	1472	1390 1481	1410
CP ID	RES NO.	8500								
RT	RED NU.	213								
DR	4	213				0.2	-1	1		
28	6	0	100	200	400	800	10000			
CP	213	12000	400	80 100	160	160	160	1		
ID	C.P. 2		100							
RT ED	213									
BF	2	120		2	7100100		720			
IN	40	CT 1927		_						
IN	1222	1268 176	497	733	647	1385	999	1365	1308	360
IN In	282 163	150	193 208	261 608	481 614	431 553	1130 524	1230 475	810 760	283 891
ÎN	491	575	317	105	94	75	776	102	124	164
IN	669	878	804	367	420	206	145	74	80	133
IN	475	433	530	1106	506	513	276	130	77	429
IN In	1205 1237	400	438 385	526	909 712	1224	655	348	212	1032
IN	194	524 171	513	354 424	620	139 1219	459 566	1195 354	550 1044	307 763
IN	545	388	1177	252	187	179	872	697	613	331
IN	3094	820	354	268	126	65	43	140	172	560
IN EJ ER	1004	859	679	1282	793	364	270	319	224	753

TABLE 22

T1 T2 T3		* M	INGLE RE OPTIMIZA ONTHLY_F	TION OF LOW 1927	CONSERVA -1937 RE	TION STO CORD (1		RUN 18 DS)		
J1 J3 J6 J6	-1.59 -2.63	-1.54 -2.38	5 -2.03	3 -2.39	-0.52	-0.36	-0.54	40	0.02	0.52
1 <u>17</u> 18	4.0	COLUMN TO STATE OF THE PARTY OF			-1-2	A		2	6	.05
RL RO	4.11 4 1	4.13 71500 213	4.12 300	4.09 2000	4.10 71500	4.05 160500	4.06 180200	213.04		
RS RS	18 78340	0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ	18	0	600	1000	9000	10500	12000	13000	14000	15000
RQ Ra	16000 18	17000 0	30000 20	54000 40	00048 08	128000 185	160000 350	198000 587	218000 800	1040
RA RE	1390	1830 1250	1922 1265	2014 1280	2106 1300	2198 1325	2267 1350	2336 1370	2500 1390	1410
RE	1430 4	1450 8500	1454 400	1458	1462	1466	1469	1472	1481	
ID RT CP ID RT ED	RES NO 213 C.P. 2 213	213 12000								
BF In	2	120 CT 1927		2	7100100		720			
IN I	1222 282 163 491 669 475 1205 1237 194 545 3094 1004	1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 252 1282	647 481 614 94 420 506 909 712 620 187 793	1385 431 553 75 206 513 1224 139 1219 179 65 364	999 1130 524 76 145 276 655 459 566 872 270	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 23

T1 T2 T3 J1		#	INGLE RE OPTIMIZ ONTHLY F 5	ATION OF	MONTHLY	DESIRED		RUN 1 DS)	9	
J6	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J7	4.2							2	6	.05
18	4.11	4.12	4.09	4.10	4.05	4.06	4.07	4.08	213.04	
RL	4	71500	300	2000	71500	180200	240000			
RO	1	213								
RS	18	0	150	580	2000	5380	12020	21410	35560	54300
RS.	78340	110690	118140	126000	134200	142800	149700	156500	180200	
RQ	18	0	600	1000	9000	10500	12000	13000	14000	15000
RQ	16000	17000	30000	54000	86000	128000	160000	198000	218000	
RA	18	Ŏ	20	40	80	185	350	587	800	1040
RA	1390	1830	1922	2014	2106	2198	2267	2336	2500	****
RE	18	1250	1265	1280	1300	1325	1350	1370	1390	1410
RE	1430	1450	1454	1458	1462	1466	1469	1472	1481	1710
CP	170V	8500	1707	100	1702	1700	1707	17/2	1701	
lib	RES NO	A		100						ĺ
ŔŤ	AES NO	213								i
QM	420	440	480	500	520	540	550	530	490	444
QM			400	200	320	340	330	394	470	440
CP	410 213	400 12000					····			
	C.P. 2	12000								
ID	L.F. Z	19								
RT	213									
ED		488								
BF	2	120		2	7100100		720			
IN		CT 1927	460							
IN	1222	1268	497	733	647	1385	999	1365	1308	360
IN	282	176	193	261	481	431	1130	1230	810	283
IN	163	150	208	608	614	553	524	475	760	891
IN	491	575	317	105	94	75	76	102	124	164
IN	669	878	804	367	420	206	145	74	80	133
IN	475	433	530	1106	506	513	276	130	77	429
IN	1205	400	438	526	909	1224	655	348	212	1032
IN	1237	524	385	354	712	139	459	1195	550	307
IN	194	171	513	424	620	1219	566	354	1044	763
ĪN	545	388	1177	252	187	179	872	697	613	331
IN	3094	820	354	268	126	65	43	140	172	560
ĪN	1004	859	679	1282	793	364	270	319	224	753
EĴ										
ĒŘ										

TABLE 24

T1 T2 T3 J1	ı	#	INGLE RE OPTIMIZA ONTHLY F 5	TION OF	PERIOD V	ARYING D CORD (1 2	TEM ESIRED F 20 PERIO		RUN 20	
	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J7	4.2							2	6	. 05
J8 RL RO	4.11 4 1	4.12 71500 213	4.09 300	4.10 2000	4.05 71500	4.06 180200	4.07 240000	4.08	213.04	
RS RS	18 78340	0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ	18 16000	0 17000	600 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000 218000	15000
RA RA	18 1390	1830	20 1922	40 2014	80 2106	185 2198	350 2267	587 2336	800 2500	1040
RE RE	18 1430	1250 1450	1265 1454	1280 1458	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
CP ID	RES NO	.4 8500		100	7					
RI	4	213								
CP ID	213 C.P. 2	12000								
ŘŤ ED	213	••								
BF In	2 40	120 CT 1927		2	7100100		720			
IN In	1222 282	126B 176	497 193	733 261	647 481	1385 431	999 1130	1365 1230	1308 810	360 283
IN	163	150	208	608	614	553	524	475	760	891
IN	491	575	317	105	94	75	.76	102	124	164
IN IN	669 475	878 433	804 530	367 1106	420 506	206 513	145 276	7 4 130	80 77	133 429
IN	1205	400	438	526	909	1224	655	348	212	1032
IN	1205 1237	524	385	354	712	139	459	1195	550	307
1N	194	171	513 1177	424	620 187	1219	566	354	1044	763
IN	545	388	1177	252	187	179	872	697	613	331
IN In	3094 1004	820 859	354 679	268 1282	126 793	65 364	43 270	140 319	172 224	560 753
1 MR	40		0/7	1202	113	997	210	317	447	7,00
MR	400	390	380	370	360	370	360	350	355	340
MR	330	320	335	345	355	320	310	340	330	325
MR	330	340	360	380	375	365	350	340	345	355
MR	370	380	390	395	400	390	380	385	375 340	365
MR MR	360 330	345 335	350 340	330 345	320 320	330 315	345 300	320 310	305	350 310
MR	320	325	330	325	335	345	340	355	360	370
MR	330	335	340	360	365	355	365	370	360	355
MR	360	345	350	330	320	330	345	320	340	350
MR	330	335	340	345	320	315	300	310	305	310
MR MR	320	325 335	330	325	335	345	340	355 370	360	370
EJ ER	330	333	340	360	365	355	365	3/0	360	355

TABLE 25

T1 T2 T3 J1		¥.	INGLE RE OPTIMIZA ONTHLY F	TION OF	REQUIRED	FLOWS* CORD (1	TEM RUN 2 20 PERIO			
J3 J6 J6	-1.59 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	2 1 -0.36	-0.54	40	0.02	0.52
J7 J8 RL RO	4.3 4.11 4	4.13 71500 213	4.12 300	4.09 2000	4.10 71500	4.05 180200	4.06 240000	4.07	4.08	.05 213.04
RS RS RQ	18 78340 18	0 110690 0	150 118140 600	580 126000 1000	2000 134200 9000	5380 142800 10500	12020 149700 12000	21410 156500 13000	35560 180200 14000	54300 15000
RQ RA RA	16000 18 1390	17000 0 1830	30000 20 1922	54000 40 2014	86000 80 2106	128000 185 2198	160000 350 2267	198000 587 2336	218000 800 2500	1040
RE RE CP	18 1430 4	1250 1450 8500	1265 1454 400	1280 1458 200	1300 1462	1325 1466	1350 1469	1370 1472	1390 1481	1410
ID RT CP ID RT ED	RES NO 4 213 C.P. 2 213	213 12000								
BF IN	2	120 CT 1927		2	7100100		720			
INNUNUNUNUNUNUNUNUNUNUNUNUNUNUNUNUNUNUN	1222 282 163 491 669 475 1205 1237 194 545 3094 1004	CT 1927 1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 268 1282	647 481 614 94 420 506 909 712 620 187 126 793	1385 431 553 75 206 513 1224 139 1219 179 65 364	999 1130 524 76 145 276 655 459 566 872 43 270	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 26

T1 T2 T3 J1	4	INGLE RE OPTIMIZA ONTHLY F 5	TION OF	MONTHLY	DIVERSIO CORD (1 2		RUN 22 DS)		
J3 6 J6 -1.59 J6 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J7 4.4 J8 4.11 RL 4	4.13 71500	4.12 300	4.24 2000	4.09 71500	4.10 180200	4.30 240000	4.03	213.03	.05 213.04
RO 1 RS 18 RS 78340	213 0 110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ 18 RQ 16000 RA 18	17000 0	600 30000 20	1000 54000 40	9000 86000 80	10500 128000 185	12000 160000 350	13000 198000 587	14000 218000 800	15000 1040
RA 1390 RE 18 RE 1430	1830 1250 1450	1922 1265 1454	2014 1280 1458	2106 1300 1462	2198 1325 1466	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410
CP 4 1D RES NO. RT 4 4 9D 12 9D 200 CP 213 ID C.P. 213 RT 213	213 213 250 240 12000	240 250 150	220 100	200	0.2 200	200	200	200	200
ED BF 2 IN 400	120 T 1927		2	7100100		720			
IN 1222 IN 282 IN 163 IN 491 IN 669 IN 475 IN 1205 IN 1237 IN 194 IN 545 IN 3094 IN 1004 EJ ER	1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 268 1282	647 481 614 94 420 506 909 712 620 187 126 793	1385 431 553 75 206 513 1224 139 1219 65 364	999 1130 524 76 145 276 655 459 566 872 43 270	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 27

T1 T2 T3 J1	•	SINGLE RE OPTIMIZA ONTHLY F 5	TION OF	ALL RESE	RVDIR YI CORD (1 2	TEM ELDS* 20 PERIO	RUN 2 DS)	23	
J3 6 J6 -1.59 J6 -2.63	-1.54 -2.38	-2.03	-2.39	-0.52	-0.36	-0.54	40	0.02	0.52
J7 4.9 J8 4.11 RL 4 RO 1	4.13 71500 213	4.12 300	4.24 2000	4.09 71500	4.10 180200	4.30 240000	4.03	213.03	.05 213.04
RS 18 RS 78340	110690	150 118140	580 126000	2000 134200	5380 142800	12020 149700	21410 156500	35560 180200	54300
RQ 18	17000	600 30000	1000 54000	9000 86000	10500 128000	12000 160000	13000 198000	14000	15000
RA 18	0	20	40	80	185 2198	350	587	218000 800	1040
RA 1390 RE 18 RE 1430 CP 4	1830 1250 1450 8500	1922 1265 1454	2014 1280 1458	2106 1300 1462	1325 1466	2267 1350 1469	2336 1370 1472	2500 1390 1481	1410
ID RES NO RT 4 DR 4 QD 12 QD 200 CP 213 ID C.P. 2 RT 213 ED	.4 213 213 250 240 12000	240 250 150	220 100	200	0.2 200	200	200	200	200
BF 2	120 CT 1927		2	7100100		720			
IN 1222 IN 282 IN 491 IN 491 IN 475 IN 1205 IN 1237 IN 194 IN 545 IN 3094 IN 1004 EJ	1268 176 150 575 878 433 400 524 171 388 820 859	497 193 208 317 804 530 438 385 513 1177 354 679	733 261 608 105 367 1106 526 354 424 252 268 1282	647 481 614 94 420 506 909 712 620 187 126 793	1385 431 553 75 206 513 1224 139 1219 179 65 364	999 1130 524 76 145 276 655 459 566 872 43	1365 1230 475 102 74 130 348 1195 354 697 140 319	1308 810 760 124 80 77 212 550 1044 613 172 224	360 283 891 164 133 429 1032 307 763 331 560 753

TABLE 28

T1 T2 T3 J1			C T	HRE	RE	5	SYSTEM +	rui - Apr	24 1954 2	1 (14 PEI	RIODS)			
J2	•••					16								
J3 JB RL RO	21 1.14 1	2. 30700	14 00 2		3.14 0000	2.31 1980000	3.31 1980000	3330	1.31 0000	4.0B 3330000	4.06 4210000			
RS RQ CP	3 3 1	11	00		0000 1200	4210000 1500								
ID	RES1		_											
RT RL RO	1 2 1		4					3320	000	3760000	6670000			
RS RQ CP	3 3 2	5	80 00 00		0000 1000	6670000 2000 14								
ID	RES2		,											
RT DR	2 2 12		4							1				
QD DA	12		0		Ō	٥	8.5	5	18	28	21		7	0
QD	ō		Ŏ		Ō	_		-						
RL	3	14170	00	97(0000	1110000	1325000	1540	000	1540000	2440000			
RO	1		4											
RS	3			1540		2440000								
RQ	3	4	00		600	900								
CP	RES3	2	55			11								
RT	7 3		4											
DR	3		7							1				
QD	12		0		0	0	l	,	7	9	7		2	0
QD	0		0		0									
CP	C.P.	7	65			85								
ID	C.P.	4												
RT	4													
DR	4		٨		^	Λ.			*0	1	24		7	0
9D	12		0		0	0	8.5)	18	28	21		,	v
QM	0 113	1	13		127	127	142	,	142	127	85		85	85
QM	85	_	85		141	127	174	•	17&	***	00		55	
ED	uu.		20											
BF	1		14				53030100)		720				
IN	153	268		230	2			6.5	3.	.5 4	4	6	17	15
IN	154	47		59										
IN	253	134		115	10)6 10	10	3		2 2	2	3	8	7.5
IN	254	24		30									40 5	71.4
IN	353	100		78		56 26	18.5	12		11 10	11	11	19.5	24
IN In	354 453	34 349		183	2	16 44	21	18.5	ø	.5 18	22	21	59	66
IN	454	58		71	۷.	77	21	1017	7	10	44	4.1	.,	
ĔĴ	797	20												
ER														

APPENDIX A

OPTIMIZATION OF CONSERVATION STORAGE

APPENDIX A OPTIMIZATION OF CONSERVATION STORAGE (RUN 18)

This example illustrates the method used by HEC-5 for automatically determining conservation storage for a single reservoir operating for minimum monthly desired flow. The input and output data follows on Tables A-1 through A-5.

The J7 Card is used to request the optimization routine to determine the minimum conservation storage at reservoir 4 (J7.1 = 4.0) needed to meet desired flow requirements during the low-flow period (input in Table A-1).

Conservation storage optimization is based upon the storage volume above top of buffer pool. For each trial the assumed conservation storage is computed by a program determined multiplier times the previous trial's conservation storage (a monthly variation may be input on RL Cards). The trials are repeated until the drawdown storage is within the error limit specified (J7.10). (The HEC-5 optimization routine adds 500,000 acre-ft of storage to all input storage values to avoid working with negative values). Table A-2 shows the optimization routing cycle 1, trial 1.

Error = target minimum storage minus minimum storage from simulation assumed maximum top-of-construction storage minus target minimum storage

Error =
$$\frac{(502,000) - (426,228)}{(571,500) - (502,000)}$$
 = 1.09 for trial 1

The allowable error is specified on $J7.10 (\pm .05 \text{ in this example.})$

The output, Table A-3, provides a listing of minimum runoff volumes plus starting and ending periods of drought durations from 1 to 38 months based on the given inflow data on IN cards since J7.8 = 2. The estimated critical drawdown period of 13 months from period 34 (July 1930) to period 46 (July 1931) is based on 70 times 0.173. The value 0.173 is the ratio of conservation storage to mean annual flow computed by the program (J7.8 = 2). The program extends that period to start at the beginning of a water year (Oct. 1929, period 25) and adds five periods to the end (Dec. 1931, period 51) to increase the chance for including the true critical period. The initial number of periods of inflow used for the critical period simulation is now reduced from 120 monthly values to the estimated 27 months from periods 25 (Oct. 1929) to 51 (Dec. 1931). On a scale beginning with 1 the program identifies period 25 as 1 and period 51 as 27. This identification applies throughout each cycle.

The initial estimates of top-of-conservation storage was specified on the input (RL .5 = 71,500 acre-feet), the initial volume of conservation storage is 69,500 acre-feet (71,500 minus 2000). In order to insure that the reservoir does not compute negative reservoir storages, 500,000 acre-feet is added internally by the program to each reservoir storage. The output listing (Table A-5) of storage volumes has this 500,000 acre-feet added to it.

The summary of all trials (Table A-4) contains the location of the reservoir, trial number, ratio of storage error, storage error, starting date of critical period, average reservoir inflow and release, average spill, top-of-conservation storage (excluding the 500,000 acre-feet added during optimization), ratio of conservation storage to mean annual flow, the period which had the minimum end-of-period storage (year, month), the length of critical period used to determine the adjusting multiplier (period 9 to 26), average release during the critical period, the average desired and required flow, and the average diversion.

For the first routing a period of maximum drawdown within the critical period 1 to 27 is identified by the program (Table A-2). This maximum drawdown period extends from period 9 to period 26 with period 1 representing Oct. 1929.

An initial estimate of 71,500 acre-feet is used for simulating this maximum drawdown period (first end-of-period storage below top-of-conservation storage (period 9) to minimum end-of-period storage (period 26)). A storage multiplier 1.206494 (Table A-2) is determined by the program for periods 9 to 26 then applied to estimate the storage for the second trial.

The initial value of 71,500 acre-feet when routed through the 27 monthly periods (1-27) gave an error ratio of 1.0902 (Table A-4). The second estimate of conservation storage of 86,264 acre-feet (71,500 \times 1.206494) produced an error ratio of 0.7225.

The same procedure was repeated for each trial until the error was within the limits specified (.05). In this example the error reached is 0.0151 on the seventh trial (TRIAL = 7).

The estimated conservation storage for trial seven, 143,929 acre-feet, is next routed through the entire low-flow period (120 months) to see if the conservation storage is adequate.

A listing (Table A-5) of the final simulation (120 months) shows the final top of conservation storage value is 643,928 (143,928 + 500,000) acre-feet. Based upon end-of-period storage for the 120 month simulation maximum drawdown period extends from period 33 to 50, the allowable error was .05 (5%) and the final error was 0.0151 (1.5%).

The user designed output (Table A-5) is printed for each simulation, but is only shown for simulation eight here. The minimum end-of-period storage (EOP STOR) was 499,862 acre-feet which was too low for the target minimum storage 502,000 (2,000 + 500,000) acre-feet (error = 1.5%).

	0.52	30		54300	15000	1040	1410					360 283 891	233	1032	763 331 560 753
	0.02	9		35560	14000		2500 1390 1481					1308 810 760	<u>7</u> 85	212	1044 613 172 224
RUN 18	40	213.04		21410	13000	282	2336 1370 1472					1365 1230 475	<u>5</u> 45	245 245 25 25 25 25 25 25 25 25 25 25 25 25 25	354 697 140 319
SYSTEM STORAGE * RUN (120 PERIODS) 2	-0.54	4.06	180200	12020	12000	220	1350 1469 1469				720	999 1130 524	75 145 77,	455 459	366 872 43 270
SUPPLY SYSTON STON STON STON STON STON STON STON	-0.36	4.05	160500	5380	10500	80	2198 1325 1466					1385 431 553	205	1224	1219 179 65 364
ATER DNSER 1937	-0.52	4.10	71500	2000	0007	88	1300 1300 1462				27100100	647 481 614	420 504	712	620 187 126 793
SERVOIR TION OF (-2.39	4.09	2000	580	1000	3	2014 1280 1458				74	733 261 608	367	526 354	424 252 268 1282
SINGLE RESERVOIR W *OPTIMIZATION OF CI HONTHLY FLOW 1927-1	-2.03	4.12	300	118140	009	885	1722 1265 1454	400				497 193 208	317 804 7.40 7.40	28.00 18.00	513 1177 354 679
ώ∓ ≖ _	-1.54	4.13	71500	0.7011	1700		1450	8200	. 213	12000	120 0FT 1927		878 878 878	224 524	388 388 820 859
~	-1.59		▼-	18 78340	180041	=	1430 1430		AE3 4	C.P. 213	72	1222 282 163	491 669 475	1205	194 3094 1004
1222	335	258	독물	888	22	2	돌 씵씵	ಕ್ಷಿ	35	8255	325	REE	ZZZ	ZZ	ZZZZ

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TABLE A-2 OPTMIZATION ROUTING CYCLE 1, TRIAL 1

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ROUTING CYCLE= ALL. PI	1 ERC NEGATIV	OPT TRIAL= VE ERROR=	1 0.050 POSITIVE ERROR=	VE ERROR=	0.0500 IN	0.0500 IND FOR DNE HORE TRY=	RE TRY=	0		
AVG.	AVG. CRITICAL DRAW DOWN RESULTS FROM PER	DOWN RESULT	S FROM PER	9 10	26					
1NFLDW 268.50 AVG.	LOW POW-REL EL-BTW DRAI 8.50 0.00 -601.92 1. AVG. ROUTING PERIOD RESULTS FROM PER	EL-BTW -601.92) RESULTS FR	DRAW-RAT 16.30 OM PER	DIV-Q 0.00 1 TO	EVAP-P -7.57 27	RELEASE 400.00	STORAGE 488408.22	ELEV -601,92	EN-REQ 0.00	
INFLOW 377.44	POW-REL 0.00	HEAD 0.00	DRAW-RAT 1.00	0SP1LL 63.17	TAILWATER 0.00	RELEASE 463.17	H.TOP-C 1424.31	H-BDT-C 1300.00		
OP TRIAL ERI 1 ** *******	ERROR-RAT ERR-51 1 1.090246 -75 *	516 TAR-MIN -75772, 5020	TAR-MIN-STG MIN-STG PER-MIN-STG TOP-STG 502000. 426228. 26 571500.	PER-MIN-STO 26		LOC. TYP				
ANN DES Q ANN REQ Q ANN 400.0 0.00	RED D ANN DIV	DIV @ INS CAP 0.00 0.	ANN FIRM	E AVG ANN E 0.	0.					
ITYOPT=	0 MULTIPLI	PLIER=	1.206494							
ASSUMED 571500.00 *RTCDF	NEXT-ASSUM 586264.34	PTWD 0.00	EST3 586264.34	ER-IMPROVE 1.00		EST-BOUND BNDMAX 0.00 100000000.00		BNDMIN ERR-	ERR-BN-MAX 0.00	ERR-BN-MIN -75772.07
ROUTING COEFF MY= 213 1.0 ************************************	ROUTING COEFTICIENTS FROM RES 4 TO MY MY= 213 1.0000 *********************************	## ###################################	4 TD MY **********	******					***************************************	

STARTING AND ENDING PERIODS FOR LOW-FLOW DURATIONS TABLE A-3

& B G G		
EST-ST6 21553. 21553. 58320. 75647. 73647. 73647. 110120. 124358. 129379. 113320. 97079. 68221. 68221. 68221. 13534. 120334. 120333. 120323. 120323. 120323. 120323. 120323. 120323. 13403. 13403. 13403.		
118 174 174 174 175 175 175 175 175 175 175 175 175 175		
P.R. 124. 126. 126. 126. 126. 126. 126. 126. 126		APPROX. DEP CAP.
TO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		DRAM-DUR 13.
# 2000000000000000000000000000000000000	DATE 29100100.	RAT-ST6/0 0.173
VUL - DUR 108. 234. 234. 245. 246. 276. 276. 276. 276. 276. 276. 276. 27	END-PER 51	OMEAN 554.
	START-PER 25	CDN-STG 69500.

TABLE A-4 OPTIMIZATION SUMMARY

	L =>		
	ANNUA DI	0000000	Ö
	ANNUAL Reg g 4	0000000	ö
	ANNUAL DES Q	444444	400.
	DRAW AV REL LDC=	0000000	400.
.05	DRAW ENGTH	च् <u>च</u> च्चच्चच्चच्च	8
	DRAW ST PER L	1930.06 1930.06 1930.06 1930.06 1930.06 1930.06	1930.06
	RAT10 ST6/0	0.1731 0.2099 0.2442 0.2737 0.5525 0.3376 0.3536	0.3536
	TOP.CON STOR.	71500. 86264. 100019. 111886. 223772. 137525.	143929. 0.3536
	AVG SP ILL	3000 5000 5000 5000 5000 5000 5000 5000	156.
	AVG REL	4444444 666633 66643 6444	556.
	AVG INF.	377.	554.
0.00	ROUTING ST PER	1929.10 1929.10 1929.10 1929.10 1929.10 1929.10	1927.10
0.00	NUM. PERIODS	222222	120
4.00	ERROR (STG)	-75772. -60883. -46955. -34863. -79242. -8707.	-2138.
37	ERROR RATIO	1.0902 0.7225 0.4790 0.3573 0.0642 0.0151	0.0151
	RIAL	→のさみらるア	
	LOCATION	SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES	SINGLE RES
	00.00	J7 4.00 0.00 0.00 0.00 0.00 0.00 0.00 2.00 6.00 0.05 TRIAL ERROR ERROR NUM, ROUTING AVG AVG AVG TOP.CON RATIO DRAW DRAW DRAW ANNUAL ARATIO (STG) PERIODS ST PER INF. REL SPILL STOR. STG/0 ST PER LENGTH AV REL DES 0 LOC= 4	TRIAL ERRUR ERRUR NUM. ROUTING AVG AVG TOP.CDN RATIO DRAW DRAW ANNUAL ANNUAL ANNUAL STORES 1 1.0902 -75772. 27 1929-10 377. 463. 63. 71500. 0.1731 1930-06 18. 400. 400. 0.0885 2 0.7225 -60883. 27 1929-10 377. 463. 63. 100019. 0.2442 1930-06 18. 400. 400. 0.0985 2 0.3573 79242. 27 1929-10 377. 464. 64. 111886. 0.2737 1930-06 18. 400. 400. 0.0885 2 0.3573 79242. 27 1929-10 377. 464. 64. 137525. 0.3578 1930-06 18. 400. 400. 0.09985 2 0.3573 79242. 27 1929-10 377. 464. 64. 137525. 0.3578 1930-06 18. 400. 400. 0.0999 1930-06 1

TABLE A-5 SIMULATION SUMMARY FOR ALL PERIODS

00000		
0000		
213. 213.040	C.P. 213 FLOW REG	1220 1274, 114 1306, 134 1306,
4.060	RES NO.4 Deg-shor	888888888888888888888888888888888888888
4. 4.050	RES NO.4 MIN DESI	
FLOOD= 4.100	RES NO.4 OUTFLOW	12220 12740 12750 13661 13766
PERIOD FI 4.090	RES ND.4 INFLOW	1222 4977.00 1268.00 1365.00 1
SUMMARY BY 4. 4.120	RES ND.4 Case	000000000000000000000000000000000000000
4.	RES ND.4 LEVEL	28141888884744466666484444666644446666666666
4.110	RES NO.4 EOP STOR	643928.69 643928.69
	杏	को क
	D YR	010101469746974669746697466974669746697466974
	DY MO	
CODE=	PER D	

TABLE A-5 (CONTINUED)

	C.P. 213 FLOW REG	400.00 400.00	400.00	400.00	400°,00 400°,00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	807.23	662.39	400.00	802.21	1238.20	400.00	400.00	665.80 400.00	400.00	1002.07	55. 400.09	400.00	400.00	400.00	400.00	1059.94	573.13	1003.39	769.08	400.00
!	RES NO.4 DEG-SHOR	000	88	888	38	000	38	88	88	88	38	0.0	88	38	0.0	88	.88	9.0	38	8	88	0.0	8.0	88	88.	8.0	88	88	8.0	e e e e	0.0	0 0 0 0 0	0.00
	RES NO.4 MIN DESI	400.00 400.00	400.00	400.00	400.00	90.00	400.00	400.00	400.00	400.00	400.00	400.00	400 00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00		400.00		90.00	400.00	400.00 0.00	400.00
4.	RES NO.4 OUTFLOW	400.00 400.00	400.00 400.00	400.00	\$6.8	400.00	400.00	400.00	400.00	400.00	400.00	400.00	4 99	807.23	662.39	400.00	802,21	1238.20	400.00	400.00	400.00	400.00	1002.07	400 00	400.00	400.00	400.00	400.00	1059,94	3/5.15 400.00	1003.39	769.08 552.39	400.00
4.	KES NO.4 INFLOW	206.00 145.00 74.00	133.00	475.00	530.00	1106.00	513.00	176.00	77.00	1205 00	400.00	438.00	00.970	1224.00	655.00	212.00	1032,00	1237.00	385.00	354.00	139.00	459.00	1195.00	307.00	194.00	171.00	213.00	620.00	1219.00	354.00	1044.00	765.00 545.00	388.00
_ 9	CASE NO. 4	000	88	88		86 0	88	88	88	88	88	88	38	0.03	0.0	88	0.03	0.0	88	8.0	90	0.0	0.03	38	0.0	88	38	88.	o. 88	38	0.0		0.00
	KES NU.4 LEVEL	2.86 2.86 2.83	2.80 2.78	2.78	2.80	2.87 2.88	2.89	2.88 2.83	2.82	2.82 2.83	2.30	2.2	2.96	3.0	88 **	2.5	3.0	88	3.00	2.99	2.5	2.98	88	2.00	2.97	2.95	2.46 2.46 2.46	2.8	88 88	38	3.0	38	3.00
-	EOP STOR	570441.96 554801.10 535400.93	515696.48 499862.25	504490.85	514062.17	557608.98 564142.71	571144.40	563802.73 547248.44	527415.08	529139,57	578898.84	581516.13	617952.24	643928.69	643928.69	629702.92	643928.69	643928.69	642910.85	640652.96	628161.85	631702.72	643728.69	638304, 73	626109.21	612115.34	620551.45	633991.03	643928.69	641391.26	643928.69	643928.69	643286.42
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TABLE A-5 (CONTINUED)

213.	C.P. 213 FLOW REG	1167.32	400.00	400.00	60.00 90.00	620.13	400.00	80%.17	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	1171.39	800.39	400.00	400.00	400.00	400.00	96.99299	3030.17	400.00	101.00	556.39	10.00
4.	RES NO.4 DEG-SHOR	0.00	0.00	88	38	0.0	8.8	88	.0	8:	88	38	88	8:	99	88	30	88	0.00	0.00	0.0	88	88	0.00	0.00	0.00	1.00	0.00	1.00
"	RES NO.4 MIN DESI	400.00	400.00	400.00 00.00	4 00.00	400.00	400.00	4 00.00	400.00	400.00	400.00	4 00.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	48000.00	400.00	400.00	1.00	400.00	1.00
4	RES NO.4 DUTFLOW	1167.32	400.00	400.00	90.009	620.13	400,00	2020.17 826.08	400.00	400.00	96.00	4 00.00	400.00	400.00	400°00 00°00	400°00	400.00	1171.39	800.39	400.00	400.00	400,00	400.00	66766.96	3030.17	400.00	101.00	556.39	10.00
4.	RES ND.4 INFLOW	1177.00	187.00	1/4.00	90.7.69	613.00	331.00	820.00	354.00	268.00	97. 97. 97.	5.09 83.09	140.00	172.00	200	1004	679.00	1282.00	793.00	364.00	270.00	319.00	753.00	66490.00	3094.00	43.00	101.00	554.08	107.00
4.	RES NO.4 CASE	0.00	88	38	80.0	0.03	88	30.0	8	88	3.5	88	8	88	38	38	0.0	000	0.03	0.0	0.00	88	88	1.08	0.03	0.00	1.00	0.01	10.00
4.	RES NO.4 LEVEL	3.00	2.97	7. 6.8	 8:5:	3.00	2.99	88	3.00	5.48 7.48	94.6	2.83	2.87	6 6 6 6 7	02°7	7.76	2,99	3.00	3,00	3.00 100	2.48	20 70 77 C	2.99	353.79	3.00	2,78	4.00	2.95	50.00
4	RES NO.4 EDP STOR	643928.69	621896.66	608/42.91	643928.69	643928.69	639976.02	643928.69	641629.18	633605.55	50/301.41	574941.28	559467.94	545404,53	503141,70	57.2345.71 671002.35	636760.06	643928.69	643928.69	641810.38	634139,12	62,722,06	639498.24	=73274909.54	643928.69	499862.25	4.00	610624.25	20.00
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APPENDIX B

SELECTED OUTPUT FOR RUNS 1-24

RUN1 - SUMMARY GUTPUT

213. 213.040	C.P. 213 FLOW REG	12721. 12721. 12721. 130
213. 213.080	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213.070	C.P. 213 MIN REQU	
213. 213.060	C.P. 213 DEG-SHOR	2274
1 213. 213.050	C.P. 213 MIN DESI	
FLOOD= 4.100	RES NO.4 OUTFLOW	12221 20211221 138881 13855.3251
PERIOD FI 4.120	RES NO.4 CASE	00000000000000000000000000000000000000
SUMMARY BY 4.130	RES NO.4 LEVEL	20000000000000000000000000000000000000
4.220	RES NO.4 EOP ELEV	14424444444444444444444444444444444444
4.110	RES NO.4 EDP STOR	71500.00 71500.00
	3	THE SET SET SET SET SET SET SET SET SET SE
	MO YR	22-121-048-47-47-47-47-47-47-47-47-47-47-47-47-47-
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RUNI (CONTINUED)

213.	C.P. 213 FLOW REG	400.00 400.00
213.	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN REQU	
213.	C.P. 213 DED-SHOR	888888888888888888888888888888888888888
213.	C. P. 213 MIN DESI	64444444444444444444444444444444444444
₹	RES NO.4 OUTFLOW	400.00 400.00
4.	RES NO.4 CASE	23.03.23.00.00.00.00.00.00.00.00.00.00.00.00.00
₹.	RES NO.4 Level	888888887878888878788888778888887788888778888
4.	RES NO.4 EOP ELEV	14223.05 14223.05 14223.07 14223.07 13300.30 13300.30 13300.30 13300.30 13300.30 1424.31
. ***	RES NO.4 EOP STOR	70753.35 68779.06 70006.95 70006.95 58131.38 42484.77 23084.88 3392.06 64318.68 71500.00
	DY NO YR DW	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
-ON 307	PER 1	54444444444444444444444444444444444444

RUN1 (CONTINUED)

213.	C. P. 213 FLOW REG	549.32 400.00 1166.18	400.00	90.00 00.00	376.06 617.16	3025.96	400.00	400.00 00.00	400.00 142.95	171.94 400.00	400.00 493.08	681.98 1285.55	797.32	400.00 400.00	400.00 400.00	66678.20	3025.96	102.29	101.00	555.65	38.00
213.	C.P. 213 REQ-SHOR	888	88	888	388	388	888	888	99	88	°°°	88	88	88	900	0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN REQU	00.00	88	999	900	200	200	88	00.00 100.00	90.00 100.00	90.00 100.00	00.00 00.00	.00 .00 .00	90.00	88.	12000.00	100.00	100.00	1.00	100.00	1.00
213.	C.P. 213 DEQ-SHOR	999	88	888	388	388	888	88	0.00 257.05	228.06 0.00	88 88	88	88	000	88	1725.45	297.71	0.00	38.00	14.38	1.00
213.	C.P. 213 MIN DESI	400.00 400.00 00.00	400.00 400.00	60.00 00.00	\$ 6 6	400.00 00.00	400.00	86. 88. 88.	400.00 400.00	400.00 400.00	400.00 400.00	400.00 400.00	400.00 400.00	400.00 400.00	400.00 400.00	48000.00	400.00	400.00	1.00	400.00	1.00
.	RES NO.4 Dutflow	549.32 400.00 1166.18	60.00 60.00	60.0 00.0 00.0	617.16	3025.96	400.00 00.00	400.00 00.00	400.00 142.95	171.94	400.00 493.08	681.98 1285.55	797.32 400.00	000	400.00 400.00	66678.20	3025.96	102.29	101.00	555.65	38.00
4	RES NO.4 Case	213.00	213.00	213.00	0.00	2000	213.00	213.00	213.00 213.00	213.00 213.00	213.00 0.03	0.0	0.03 213.00	213.00	213.00	16189.32	213.00	0.03	10.00	134.91	1.00
.	RES NO.4 Level	3.99	2.83	25.4			2.96	2.25	25.8	2.0	2.67 3.00	28 88	2.0 2.40	2.79	2.63 2.63	329.79	3.00	2.00	1.00	2.75	37.00
*	RES NO.4 EOP ELEV	1424.31 1423.74 1424.31	1416.78	1419.09	1424.31	1424.31	1422.24	1399.73	1301.30	1348.30	1404,18	1424.31 1424.31	1424.31	1416.11	1420.50	68291.95	1424.31	1300.00	1.00	1402,43	37.00
4	RES NO.4 EDP STOR	71500.00 70817.84 71500.00	62454.81 49393.21	55220.60	71500.00	71500.00	69016.18	44677.76 24114.33	2000.00	2000.00 11568.99	48850.74 71500.00	71500.00	71500.00	61642.09 56711.52	45922.93 66926.41	6480173.11	71500.00	2000.00	2.00	54001.44	109.00
LOC NO=	PER DY NO YR DW	91 1 4 35 1 92 1 5 35 1 93 1 6 35 1	888 	122	12 35	328 229	25.25	1 6 38	200 200 200 200 200 200 200 200 200 200	11 36	1 2 36	22	 545			79 = WINS	# XAN	II Z	PMAX=	AV6 =	PMIN=

213. 213.040	C.P. 213 FLOW REG	12721 12721 12721 136491 13655
213. 213.080	C.P. 213 RED-SHOR	888888888888888888888888888888888888888
213. 213.070	C.P. 213 MIN REQU	888888888888888888888888888888888888888
213. 213.060	C.P. 213 DEQ-SHOR	235.73 23
1 213. 213.050	C.P. 213 MIN DESI	60000000000000000000000000000000000000
FL000= 4.100	RES NO.4 OUTFLOW	1221 12721.757 1368.831 1365.351.757 1365.351.757 1365.351.757 1400.0000000000000000000000000000000000
PERIOD 4.120	RES NO.4 Case	88888888888888888888888888888888888888
SUMMARY BY 4. 4.130	RES NO.4 LEVEL	\$2000012522000032ECB845280001522222200000000000000000000000000
4.220	RES NO.4 EOP ELEV	1424.4 1424.3 14
4.110	RES NO.4 EOP STOR	71500.00 71500.00
	書	THE POT THE THE THE THE THE THE THE THE THE TH
	MO YR	01101-0246-04-00-0101-0246-04-00-0101-024-02-02-02-02-02-02-02-02-02-02-02-02-02-
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RUNZ (CONTINUED)

213.	C.P. 213 FLOW REB	400.00	400.00 400.00 60.00	400.00 0.00	156.77	400.00	400.00	429.62	400.00 400.00	400.00	31069.02	1388.55	102.29	9.00	517.82	38.00
213.	C.P. 213 REQ-SHOR		888								0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN REDU	100.00	223 223 233	888	00.00	100.00	900	00.00	100.00	98.	00.0009	100.00	100.00	1.00	100.00	1.00
213.	C.P. 213 DED-SHOR	99	888	888	243.23	88	888	88	88	88	1240.35	297.71	0.00	38.00	20.67	1.00
213.	C.P. 213 MIN DESI		866 866 866 866								24000.00	400.00	400.00	1.00	400.00	1.00
4	RES NO.4 OUTFLOW	400.00 00.00	866 866 866	868	156.77 400.00	400.00 00.00	400 00 00 00 00 00	429.62	\$\$ \$\$ \$\$	400.00 00.00	31069.02	1388.55	102.29	9.00	517.82	38.00
4	RES NO.4 CASE	213.00	223 233 233 233 233 233 233 233 233 233	223.00	213.00 213.00	213.00 213.00	213.00	20.0	213.00	213.00 213.00	9159.51	213.00	0.03	10.00	152.66	1.00
.	RES NO.4 LEVEL	2.99	% % % %	.22 288 288	2.0 2.0	2.10 2.20	2.83	88	2.84 2.66	2.37	159.56	3.00	2.00	1.00	2.66	37.00
₹.	RES NO.4 EOP ELEV	1423.69	1413.19	1372.37	1300.00	1337.51	1414.56	1424.31	1418.20	1378.99	83652.02	1424.31	1300.00	1.00	1394.20	37.00
4	RES NO.4 EOP STOR	70753.35 68779.06	70006.73 58131.38 42484.77	23084.88 3392.06	2000.00 6641.80	8702.98 16227.14	59778.64 66318.68	71500.00	47604.43	27771.22 29495.71	2869598.48	71500.00	2000.00	2.00	47826.64	39.00
LOC NO=	PER DY MO YR DW	40.	45 1 7 31 1 47 1 8 31 1	10.01	22 22	222	4 32	223	225	25 1 0 25 1 1	SUM = 2	#AX #		PMAX=	AV6 =	PMIN=

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213. 213.040	C.P. 213 FLOW REG	00000000000000000000000000000000000000
213. 213.080	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213. 213.070	C.P. 213 MIN REQU	888888888888888888888888888888888888888
213. 213.060	C.P. 213 DED-SHOR	2272 0000000000000000000000000000000000
213. 213.050	C.P. 213 MIN DESI	666666666666666666666666666666666666666
FLOOD= 1	RES NO.4 OUTFLOW	64644444444444444444444444444444444444
PERIOD FLO 4.120	RES NO.4 Case	
SUMMARY BY P	RES NO.4 LEVEL	\$4\$
4. 220	RES NO.4 EOP ELEV	134682111111111111111111111111111111111111
4.110	RES NO.4 EOP STOR	6997.74 48551.32 37776.37 71500.00
CODE=	PER DY MO YR DW	255484444444444444444444444444444444444

RUN3 (CONTINUED)

= Wings	2226098.48		132.56	9159.24	21621.93	20400.00	1240.35	5100.00	0.00	21621.93
MAX =	71500.00		3.00	213.00	1233.55	400.00	297.71	100.00	0.00	1233.55
" Z	2000.00		2.00	0.03	102,29	400.00	0.00	100.00	0.00	102.29
PMAX=	8.00	8.00	8.00	1.00	9.00	1.00	29.00	1.00	1.00	9.00
AV6 =	43648.99		2.60	179.59	423.96	400.00	24.32	100.00	0.00	423.96
PHIN:	30.00		28.00	8.00	29.00	1.00	1.00	1.00	3.	29.00

RUN4 - SUMMARY DUTPUT

213.040	C.P. 213 FLOW REG	12721.09 12721.75 12721.75 1388.51.16 1365.32 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1365.91 1366.00
213. 213.080	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213. 213.070	C.P. 213 MIN REDU	888888888888888888888888888888888888888
213. 213.060	C.P. 213 DEG-SHOR	23750880000000000000000000000000000000000
1 213. 213.050	C.P. 213 MIN DESI	444440303030303030303030303030303030303
FL000= 4.100	RES NO.4 OUTFLOW	12221 277211 277211 277211 277211 2770211 277031 27703
22	RES NO.4 CASE	88888888888888888888888888888888888888
SUMMARY BY PERIOD 4. 4.130 4.	RES NO.4 LEVEL	######################################
4. 4.220	RES NO.4 EDP ELEV	1424.4 1424.4 1424.4 1424.3 1424.3 1424.3 1300.2 1300.2 1300.3 13
4.	RES NO.4 EOP STOR	71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 7011.87 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 7719.30 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00 771500.00
CODE=	PER DY MO YR DW	24.6.3833333333332222222222222333333333333

RUN4 (CONTINUED)

213.	C.P. 213 FLOW REG	
213.	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN REQU	888888888888888888888888888888888888888
213.	C.P. 213 DEQ-SHOR	000001388888888888888888888888888888888
213.	C.P. 213 MIN DESI	844444444600000000000000000000000000000
4	RES NO.4 OUTFLOW	1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1227550.000 1227550.000 1227550.000 122750.000 1227550.000 1
4.	RES NO.4 CASE	00000000000000000000000000000000000000
*	RES NO.4 Level	044441-14444444444444444444444444444444
4.	RES NO.4 EOP ELEV	1422.75 1422.75 155.76
4.	RES NO.4 EOP STOR	2002.00 2002.37 2002.37 2002.39 2002.39 2002.39 2000.00 200
FOC NO=	PER DY MO YR DW	\$4444445555555555555555555555555555555

213.	C.P. 213 FLOW REG	242010000000000000000000000000000000000	67238.86	2992.63	70.68	101,00	560.32	107.00
213.	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888	46.86	29.32	0.00	107.00	0.39	1.00
213.	C.P. 213 MIN REQU		12000.00	100.00	100.00	1.00	100.00	1.00
213.	C.P. 213 DEQ-SHOR	2445 2445 2445 2445 2445 2445 2445 2445	4552.82	459.32	0.00	107.00	37.94	1.00
213.	C.P. 213 MIN DESI	0.000000000000000000000000000000000000	57200.00	550.00	400.00	10.00	476.67	3.00
4.	RES NO.4 OUTFLOW	29,250 10,259 10,259 10,259 10,259 10,000 10,000 11,111	67238.86	2992.63	89.07	101.00	560.32	107.00
4.	RES NO.4 Case	80000000000000000000000000000000000000	18319, 10	213.00	0.03	10.00	152.66	1.00
•	RES NO.4 Level	00000000000000000000000000000000000000	305,56	3.00	1.00	1.00	2.55	49.00
₹	RES NO.4 EOP ELEV	1338016.33 138016.33 13808.45 13808.45 13808.45 13808.45 1370.00 1370.	166099.80	1424.31	1270.23	1.00	1384.16	49.00
.	RES NO.4 EOP STOR	2426.00 25228.51 2167.67 2167.67 2167.67 2167.67 2167.67 2167.67 2167.67 2000.00	5616.44	71500.00	300.00	2,00	42555.14	49.00
COC NO=	PER DY NO YR DW	का पाने कर्म पाने कार्य कार्य कर्म कर्म कर्म कर्म कर्म कर्म कर्म कर्म	SIM = 510	MAX ==	" NI	PMAX=	AV6 =	PMIN=

RUNS - SUMMARY OUTPUT

	213. 213.040	C.P. 213 FLOW REG	1221.09	501.16	649.88	1388.55	1365.91	400.65	400.00	400.00	400.00	400.00	471.71	1233.55	400.00	90.00	40°.00°.00°.00°.00°.00°.00°.00°.00°.00°.	400.00	400.00	400.00	747.30	894.55	575.91	400.00	400.00	400	212.16	124.24	400.00	****
	213. 213.080	C.P. 213 REQ-SHOR	000	0.00	889	9. 9.0	8.6	38	86	88	8	88		88		88	88	8.0	38	0.0	88	0.0	88	88	88	88	88	38	388	* * *
	213. 213.070	C.P. 213 MIN REQU	110.00	100.00	120.00	140.00	150.00		130.00	110.00	00.00	8.5 8.5 8.5	120.00	130.00	120.00	150.00	130.00	120.00	100.00	100.00	120.00	130.00	140.00 150.00	120.00	20.02	120.00	110.00	88	20.00	; ; ;
	212. 212.060	C.P. 212 DEG-SHOR	99	000	888	88	800	38	86	38	8	88	88	88	88.	88	88	86	38	0.0	88	8	38	8.8	88	38	187.84	275.74	22.627 00.00 00.00	· • •
	212. 212.050	C.P. 212 MIN DESI	400.00	400.00 400.00	400.00	66.00 00.00	400.00	\$6.69 \$6.09	90.00 00.00 00.00	400.00	400.00	400.00 00.00	400.00	400.00 0.00	400.00	400.00	400.00	400.00	400.00	400.00	60.00 00.00	400.00	400	400.00	400.00	400.00	400.00	400.00	4 4 4 200.00 00.00	:
FL000=	4.100	RES NO.4 OUTFLOW	1221.09	501.16 735.78	649.88	1003.32	1365.91	400.00	400.00	400.00	400.00	400.00 00.00	471.71	1233,55	400.00	400.00 400.00	400.00	400.00	400.00 00.00	400.00	747.30	894.55	575.91	400.00	400.00	400.00	212.16	124.26	400.00 400.00	
	4. 120	RES ND.4 CASE	0.03	0.03	0.0	300	0.03	212.00	212.00	212.00	212.00	217.00	0.03	0.0	212.00	212.00	212.00	212.8	212.00	212.00	212.00 0.03	0.0	0.0	212.00	212.00	212.00	212.00	212.00	212.00	
SUMMARY BY PERIOD	4.130	RES NO.4 LEVEL	3.00 2.00	88 88	88	38 ? ?	88	2.97	2.8	2.49	2.37	2.47	8:	88 88	2.90	2.69	2.3	2.48	2.8	2.92	3.5	88	38	2.93	2.67 40.40	2:12	%. 88	388	 22.2	i
•	4.220	RES NO.4 EOP ELEV	1424.31	1424.31	1424.31	1424.31	1424.31	1422.31	1416.31	1390.24	1378.86	1388.94	1424.31	1424.31	1418.37	1405, 72	1372.49	1389,99	1413.08	1419.61	1424.31	1424.31	1424.31	1420.23	1405.82	1343.83	1300.00	1300.00	1360.56	
•	4.110	RES NO.4 EOP STOR	71500.00																								2000.00	2000.00	16976.57 46493.66	
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213.	C.P. 213 FLOW REG	12271.15
213.	C.P. 213 REG-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN REQU	
212.	C.P. 212 DED-SHOR	888888888888888888888888888888888888888
212.	C.P. 212 MIN DESI	60000000000000000000000000000000000000
4.	RES NO.4 DUTFLOW	755-50-50-50-50-50-50-50-50-50-50-50-50-5
4	RES NO.4 CASE	33833388888888888888888888888888888888
4	RES NO.4 LEVEL	00488884444666678484668888884446666666446466666666
-	RES NO.4 EOP ELEV	14223. 14223. 14223. 15
4.	RES NO.4 EOP STOR	70753, 35 70006, 95 70006, 95 7372, 06 7372, 06 7372, 06 7372, 06 7377, 18, 64 71500, 00 71500, 00
FOC NO=	PER DY NO YR DW	24444484888888888888888888888888888888

213.	C.P. 213 FLOW REG	549.32	400.00	400	596.06	3025.96	823.55	400.00	400.00 400.00	400.00	142.95	400.00	400,00 493,08	681.98	1285.55	400.00	400.00 00.00	400.00 400.00	66678.20	3025.96	102.29	101.00	555.65	38.00
213.	C.P. 213 REQ-SHOR	8000	888	88	88	000	88	38:	88	9	88	0.0	96.	0.00	90	8	38	 88	0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN REQU	150.00	140.00	120.00	100.00	100.00	130.00	120.00	150.00	130.00	120.00	100.00	100.00	120.00	140.00	150.00	140.00	120.00	14900.00	150.00	100.00	8.00	124.17	2.00
212.	C.P. 212 DEQ-SHOR	0000	99	88	000	00	88	883	88	0.0	228.06	88	38	8	38	800	88:	88	1725.45	297.71	0.00	38.00	14.38	1.00
212.	C.P. 212 MIN DESI	400,00 400,00 400,00	400.00	400 400 00 00 00	400.00 400.00	400.00 400.00	400.00	400.00	400.00 400.00	400.00	\$6.03 80.03	400.00	400.00	400.00	\$ 6	400.00	400.00	400.00	48000.00	400.00	400.00	1.00	400.00	1.00
4	RES NO.4 OUTFLOW	549.32 400.00 1166.18	400.00	400.00 400.00	596.06 617.16	400.00 3025.96	823.55 400.00	400	400.00 400.00	400.00	171.94	400.00	493.08	681.98	797.32	400.00 00.00	900	400.00 400.00	66678.20	3025.96	102.29	101.00	555,65	38.00
य	RES NO.4 CASE	212.00	212.00	212.00	0.0	212.00 0.03	0.03	212.00	212.00	212.00	212.00	212.00	0.03	0.03	900	212.00	212.00	212.00	16113.32	212.00	0.03	10.00	134.28	1.00
₩.	RES NO.4 LEVEL	3.53	2.87	2.91	88 88	3.00	3.00 2.80	2.82	7.37 2.32	3.8 3.8	88. 7.8	2.14 7.7	 8.6	88 88	38 ini	2.47 85.	2:79	2.68	329.79	3,00	2.00	1.00	2.75	37.00
*	RES NO.4 EOP ELEV	1424.31 1423.74 1424.31	1416.78 1404.76	1419.09	1424.31	1420.92	1424.31	1415.53	1373.82	1301.30	1300.00	1348.30	1424.31	1424.31	1424.31	1422.51	1412.01	1420.50	68291.95	1424.31	1300.00	1.00	1402.43	37.00
4	RES NO.4 EOP STOR	71500.00 70817.84 71500.00	62454.81 49393.21	36241.12 65220.60	71500.00	67424.34 71500.00	71500.00 69016.18	60951.50	24114.33	2175.54	2000.00	11568.99	71500.00	71500.00	71500.00	69341.65	56711.52	66926.41	6480173.11	71500.00	2000.00	2.00	54001.44	109.00
LOC NO=	PER DY MO YR DW	91 1 4 35 1 92 1 5 35 1 93 1 6 35 1	 823	- C C C C C C C C C C C C C C C C C C C	22 22 28 28 28	288 12 12 12 12 12 12 12 12 12 12 12 12 12 1		72 27	325	% % ~ ~ ~	38	288	22	1 2 37		12 12 12 13 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	23	1 4 37	79 = VINS	# X4H	" NII	PMRX=	AV6 =	PMIN=

RUN6 - SUMMARY OUTPUT

213.	C.P. 213 FLOW REG	12221 127221 127221 127221 13861
213. 213.080	C.P. 213 REQ-SHOR	232222222222222222222222222222222222222
213. 213.070	C.P. 213 MIN REQU	
212. 212.060	DUMNY CP DEQ-SHOR	23000000000000000000000000000000000000
1 212, 212,050	DUMMY CP MIN DESI	44440000000000000000000000000000000000
FL000= 4.100	RES NO.4 DUTFLOW	12721 12721
PERIOD FI 4.120	RES NO.4 CASE	
SUMMARY BY 4.	RES NO.4 LEVEL	98999988888888888888888989888888888888
4. 220	RES NO.4 EDP ELEV	1424, 424, 424, 424, 424, 424, 424, 424,
4.	RES NO.4 EOP STOR	71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 7719.30 7719.30 77119.30 77119.30 77119.30 77110.34 77110
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	چ	121688888888888888888888888888888888888
	윤	0111-02464/8401111-02464/840111-02464/8404/840111-02
.	PER DY	サート・ファー・ファー・ファー・ファー・ファー・ファー・ファー・ファー・ファー・ファー
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213.	C.P. 213 FLOW REG	2520.00 252
213.	C.P. 213 C REG-SHOR FI	888842888888888888888888888888888888888
213.	C.P. 213 MIN REQU	88888888888888888888888888888888888888
212.	DUMMY CP DEG-SHOR	22882888888888888888888888888888888888
212.	DUMNY CP MIN DESI	44420000000000000000000000000000000000
4	RES NO.4 DUTFLOW	7,500,000,000,000,000,000,000,000,000,00
*	RES ND.4 CASE	83888888888888888888888888888888888888
₫.	RES NO.4 Level	88\$\$8\$717£88£8873823888888815£88857575£89888\$\$\$88
₹	RES NO.4 EOP ELEV	1402. 1300.002. 1300.002. 1300.002. 1300.002. 1300.002. 1300.002. 1300.002. 1300.002. 1400.002.
*	RES NO.4 EOP STOR	57619, 37 48255, 37 20023, 44 20023, 44 300, 00 300, 00 2000, 00 2000
NO=	PER DY MO YR DW	244444452525252555555665666666666666666
307 100 100	Z	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

213.	C.P. 213 FLOW REG	549.32	550.00	490.00 0.00	440.00	400.00	420.00 2992.63	823.55	220.00	540.00	70.68	120.00	410.00	400.00	483.53	1285.55	797.32	540.00	550.00	490.00	67239.47	2992.63	70.68	101.00	560.33	107.00
213.	C.P. 213 REQ-SHOR	0000	888	38	86	888	88	88	80	88	59.32	88	88	8.0	88	.0	83	38	8	38	121.71	59,32	0.00	107.00	1.01	1.00
213.	C.P. 213 MIN REGU	150.00	140.00	120.00	110.00	200	20.00	130.00	120.00	120.09 140.00	130.00	120.00	90.00	80.00	30.00	130.00	140.00	120.00	140.00	120.00	14900.00	150.00	100.00	8.00	124.17	2.00
212.	DUMMY CP DEQ-SHOR	0000	888	38	86 0	888	38	88	000	0.00	459.32	370.00	, , , ,	88	30	0.0	88	38	96.0	88	4552.22	459.32	0.00	107.00	37.94	1.00
212.	DUMMY CP MIN DESI	500.00 520.00 540.00	550.00	490.00	440.00 410.00	900.00	440.00	90.00 00.00 00.00	520.00	240.00 250.00	530.00	490.00	410.00	4 00.00	440.00	480.00	200.00	540.00	550.00	490.00	57200.00	550.00	400.00	10.00	476.67	3.00
.	RES NO.4 OUTFLOW	549.32 520.00 1042.12	550.00	490.00	440.00 410.00	400.00	2992.63	823.33 500.00	520.00	240.00 406.73	70.68	120.00	410.00	400.00	681.98	1285.55	520.52	540.00	550.00	490.00	67239.47	2992,63	70.68	101.00	560.33	107.00
4.	RES NO.4 CASE	0.03 212.00 0.03	212.00	212.00	212.00 212.00	212.00	0.03	0.03 212.00	212.00	212.00	0.07	213.00	212.00	212.00	0.0	0.03	3.5	212.00	212.00	212.00	17813.24	213.00	0.03	36.00	148.44	1.00
	RES NO.4 Level	3.88 3.88	2.74	2.13	5.5 88.8	2.6		2.5	2.66	88.	8:	2.00 2.00	2.13	7.67	88	 89	3 3 3 5	2.63	2.43	2.38	304.55	3.00	1.00	1.00	2.54	37.00
4	RES NO.4 EOP ELEV	1424.31 1417.60 1424.31	1408.86	1353.49	1374.95	1423.74	1424,31	1417.29	1402.86	1300.00	1270.23	1300.00	1346.06	1405.55	1424.31	1424.31	1424.31	1401.06	1384.63	1380.18	66064.55	1424.31	1270.23	1.00	1383.87	37.00
4	RES NO.4 EOP STOR	71500.00 63436.89 71500.00	53228.51	13660.60	40194.39 57485.14	70816.90 65508.97	71500.00	63057.04	47607.65	2000.00	300.00	2000,00	10972.32	71500.00	71500.00	71500.00	41300.00 41940.70	45925, 42	31759.46	28612.89	04894.99	71500.00	300.00	2.00	42540.79	37.00
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	X.	222	RR	i Si	SRS	23	325	828	22.2	22	282	323	25	35	S	D:	ş₽	i Est	SP	æ	툸	¥	=	PMAX	₩9	PM1N=
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LOC NO=	PER DY	91 92 93 1	25 																							
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RUN7 - SUMMARY OUTPUT

213. 213.040	C.P. 213 FLOW REG	12721.75 501.75 1368.98 1368.91 1435.75 1455.75 150.00 150.00 165.00
213. 213.080	C.P. 213 REQ-5HOR	888888888888888888888888888888888888888
213. 213.070	C.P. 213 MIN REQU	
213. 213.060	C.P. 213 DEQ-SHOR	888888888888888888888888888888888888888
1 213. 213.050	C.P. 213 MIN DESI	\$655.55.50.000.000.000.000.000.000.000.00
FLOOD= 4.100	RES NO.4 OUTFLOW	12721 27211
PERIOD FI 4. 4.120	RES NO.4 CASE	
SUMMARY BY 4. 4.130	RES NO.4 LEVEL	85888888888888888888888888888888888888
4.220	RES NO.4 EOP ELEV	122454444444444444444444444444444444444
4.110	RES NO.4 EOP STOR	71500.00 71500.00
	西	
	ž	757588888888888883333333333338888888888
	S .	01010101010101010101010101010101010101
ä	PER DV	44433333333333333555555555555555555555
CODE=	ā.	

213.	C.P. 213 FLOW REB	2508 2608 2608 2608 2609
213.	C.P. 213 RED-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN REQU	
213.	C.P. 213 DEG-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN DESI	120 120 120 120 120 120 120 120 120 120
w.*	RES NO.4 OUTFLOW	250.23 25
*	RES NO.4 CASE	00000000000000000000000000000000000000
ब	RES NO.4 LEVEL	88888888888888888888888888888888888888
**	RES NO.4 EDP ELEV	77575757575757575757575757575757575757
4	RES NO.4 EOP STOR	71500.00 71500.00
LOC NO=	PER DY MO YR DW	\$44444468888888888888888888888888888888

213.	C.P. 213 FLOW REG	549.32	252.94	178.96	701.75	333.78	823.55 823.55	268.91	225.00 245.00	240.00 255.00	260.00	620.56	861.78	1285.55	364.91	319,94	260.00 716.48	66671.84	3096.88	105.00	101.00	555.60	59.00
213.	C.P. 213 RED-SHOR	999	300	38:	88	888	388	88	88	88	8	88	9.0 8.0	88	888	388	38	0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN REQU	888	203	303	98:	888	388	200	88	90. 90. 90.	88	30.	90. 90. 90. 90.	00.00	303	303	100.00	12000.00	100.00	100.00	1.00	100.00	1.00
213.	C.P. 213 DED-SHOR	888	888	388	88:	888	388	388	88	88	88	38:	88	88	888	388	38	0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN DESI	115.00	145.00	112.00	110.00	20.00	122.00	225.00	245.00	240.00 255.00	260.00	110.00	125.00 240.00	260.00	255.00	270.00	255.00	20295.00	400.00	100.00	35.00	169.13	57.00
₹	RES NO.4 OUTFLOW	549.32 388.91	252.94	178.96	701.09	333.78	823.55	268.91	245.00	240.00 255.00	260.00	620.56	861.78 681.98	1285.55	364.91	319.94	716.48	66671.84	3096.88	105.00	101.00	555.60	59.00
4.	RES NO.4 Case	0.00	000	900	30.	900	900	0,00	213.00	213.00 213.00	213.00			0.00	000	.0.5	0.03	4475.97	213.00	0.03	34.00	37.30	1.00
*	RES NO.4 Level	2000 0000		388 ini	388	388			7.77 7.79	2.58 2.48	2,41		 88	88 88	888	386 386	3.00	353.80	3.00	2.35	1.00	2.95	39.00
4	RES NO.4 EOP ELEV	1424.31 1424.31	1424.31	1424.31	1424.31	1424.31	1424.31	1424.31	1410.27	1397.46	1382.51	1424.31	1424.31	1424.31	1424.31	1424.31	1424.31	170504.49	1424.31	1376.76	1.00	1420.87	39.00
4.	RES NO.4 EOP STOR	71500.00																49221.44	71500.00	26190.22	101.00	67910.18	39.00
LOC NO=	PER DY MO YR DW	92 1 4 35 1 6 35 1 6 35 1	 		222			22.27	282	26 26 26 26	1 10 38	1 12 38	1 2 37	1 2 3	1 2 2	 	1 9 37	SUM = 81	MAX =	ı	PMAX=	AV6 =	-WIW

RUNB - SUMMARY OUTPUT

900
165.00 160.00 145.00
235.94 0.00 0.00
860 800 800 800 800
400.00 400.00 0.00
212.00 212.00 212.00
2.19 2.19 2.62
1356.92 1356.92 1399.84
300.00 15271.14 44783.88
42 1 2 31 1 42 1 3 31 1

-	FLOW REG	400.00	400.00 00.00	400.00	394.72	150.00	400.00	400.00	400.00	413,11	400.00	400.00	400.00 521.18	404.75	442.16	911.98	1227.55	400.00	400.00	1237 70	523.96	400.00	660.15	400.00	992.38	554.32	400.00	400.00	400.00	400.00	570.16	999.04	766.55
213.	RED-SHOR	000	88	8.6 6.6	88	88	88	88	88	88	38	8	88	8	88	38	8	88	8	88	88.	88	88	88	38	88	38	88	38	88	300	38	0.00
213. C.P. 213	MIN REQU	110.00	10.00	145 5.0 5.0 5.0	140.00	150.00	115.00	140 45.98	110.00	15.00	10.00	105.00	10.00	15.00	110.00	15.8	145.00	155.00	160.00	170.00 10.00	115.00	140.00	165.00	55.0	20.02	160.00	38.	190.00	170.08	90.02	160.00	155.00	140.00
212. DIIMMY CP	DEG-SHOR	000	383	0.0	5.28	250.00 0.00	886	38	88	98	88	8.0	38	8	88	88	8	38	8	88	0	88	88	88	38	88	88	88	38	88	388	38	0.00
212. DIIMNY CP	MIN DESI	400.00	400.00 00.00	400.00 0.00	400.00	400.00 0.00	900	400°00 400°00	400.00	400.00	400.00	400.00	* 00.6	400.00	400.00	400.00	400.00	400.00	400.00	400.00 400.00	400.00	400.00	400.00	400.00	400.00	90.00	400.00	400.00 400.00	400.00	400.00	400.00	400.00	400.00
4, RES NO.4	OUTFLOW	400.00 400.00	400.00 00.00	400.00 400.00	394.72	150.00 400.00	400.00	400.00	400	415.11	400.00	400.00	521.18	404.75	578.78	911.98	1227.55	400.00	400.00	1237.70	523.96	400.00	660.15	400.00	995.38	554.32	400.00	400.00	400.00	1054 75	570.16	999.04	766.55
4. RES NO.4	CASE	212.00	212.00	212.00 212.00	212.00	213.00 212.00	212.00	212.00	212.00	0.03 212,00	212.00	212.00	0.03	0.03	20°0	0.03	0.03	212.00	212.00	35	0.03	212.00	0.03	212.00	0.03	21.00	212.00	212.00	212.00	212.00 0.03	0.03	0.03	0.03
4. RES NO.4	LEVEL	2.94		5.5 5.5 5.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5	2.8	1.41 2.05	2.08	2.82	2.41	3.6 	2.66	2.37	 \$8	8.8 8.8	38 88	88	88	38	2.79	38	88	2.49	3,0	2.7	:8 :8	, c	2.74	2.54	2.66	%. 88	200 200 200 200 200 200 200 200 200 20	20.	2.00
	EOP ELEV	1422.26	1411.76	1369.91	1300.00	1325.97	1333.72	1413.72	1419.15	1418.20	1402.85	1378.99	1424.31	1424.31	1424.31	1424.31	1424.31	1421.70	1412,42	1424.31	1424.31	1423.30	1424,31	1411.09	1424.31	1424.31	1409.26	1394,28	1403.25	1415.96	1424.31	1424.31	1424.51
	EOP STOR	67063.23 67063.23	56413.68	21366.49	2000.00	5638.51	7696.38	58766.62	65303.71	64158.49	47604.43	27771.22	71500.00	71500.00	71500.00	71500.00	71500.00	68357.52	57205.49	71500.00	71500.00	/0222.06 68060.60	71500.00	59077.99	71500.00	71500.00	53611.24	39572.73 46550.80	47977.34	61459.48 71500.00	71500.00	71500.00	/1300,00
	PER DY NO YR DW	40.4 E.E.E.E.E.E.E.E.E.E.E.E.E.E.E.E.E.E.E		 	1031	122		1 3 32 1	1 4 32 1	1 6 52 1	1 7 32 1	220	1 10 32 1	111 32 1	1 2 2 1 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1	1 2 33	- 1 23 23 - 1	222	1 6 33 1	222	122	1123	1 12 33 1	2 24 1	100	1 4 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 6 34	1 / 54 1	1 6 34	1 10 34 1	1 12 34 1	128	- C

213.	C.P. 213 FLOW REG	549.32 400.00 1166.18	400.00 400.00	400.00 400.00 596.06	400.00	3025.96 823.55	400.00 400.00	400.00	142.95	171.94	400.00	493.08 681.98	1285.55	400.00	90.0	400.00 400.00	66677.84	3025.96	124.09	101.00	555,65	39.00
213.	C.P. 213 RED-SHOR	888	888	888	99	88	99	88	0.0 0.0	88	88	e e	9.6	888	38	88	106.08	54.22	0.00	38.00	0.88	1.00
213.	C.P. 213 MIN REQU	170.00 180.00 190.00	400.00	180.00	175.00 165.00	160.00 145.00	150.00	110.00	1 45. 00	140.00	110.00	115.00	145.00	112.00	110.08	105.00	17760.00	400.00	100.00	35.00	148.00	1.00
212.	DUMMY CP DEQ-SHOR	888	888	388	88	 88	88	 88	0.00 257.05	228.06	38	88	9.6 9.6	888	38	88	1709.31	275.91	0.00	39.00	14.24	1.00
212.	DUMMY CP MIN DESI	400.00 400.00	400 600 600 600 600 600 600 600 600 600	60.00 00.00	400.00 400.00	400.00 400.00	400.00 400.00	400 400 00 00 00	400 400 00 00	400.00	400.00	400.00 400.00	400.00	400.00	400.00	400.00 400.00	48000.00	400.00	400.00	1.00	400.00	1.00
÷	RES NO.4 OUTFLOW	549,32 400,00 1166,18	400.00 00.00	24.00 24.00 26.00 26.00	400.00	3025.96 823.55	60.00 60.00	400.00 400.00	400.00 142.95	171.94	400.00	473.08 681.98	1285.55	400.00	400.00	400.00 400.00	66677.84	3025.96	124.09	101.00	555, 65	39.00
4.	RES NO.4 CASE	0.03 212.00 0.03	212.00	212.00	0.03 212.00	0.00	212.00 212.00	212.00 212.00	212.00 212.00	212.00	212.00	0.0	0.03 0.03	212.00	212.00	212.00	15478.53	213.00	0.03	50.00	128.99	1.00
4.	RES NO.4 LEVEL	2.00	7.68 7.68 7.68	3.53	2.90	88; 88;	2.% 2.85	2.52	5.8 2.8	2.00 2.14	2.67	38 38	88 88	2.97	2.79	2.93	325.91	3.00	1.00	1.00	2.72	38.00
4.	RES NO.4 EDP ELEV	1424.31 1423.74 1424.31	1404.76	1419.09	1424.31	1424.31	1422.24	1379.73	1301.30	1300.00 1348.30	1404.18	1424.31	1424.31	1422.51	1412.01	1420.50	168151.44	1424.31	1270.23	1.00	1401.26	38.00
4.	RES NO.4 EOP STOR	71500.00 70817.84 71500.00	49393.21	65220.60 71500.00	71500.00	71500.00	69016.18 60951.50	44677.76 24114.33	2175.54 2000.00	2000.00	48850.74	71500.00	71500.00	69341.65	56711.52	43422.43 66926.41	6453920.31	71500.00	300.00	2.00	53782.67	38.00
COC NO=	PER DY MO YR DW	91 1 4 35 1 92 1 6 4 35 1 6 4 35 1 6 4 35 1 1 6 35 1 6 35 1 6 35 1 1 6 35 1		1233	1233	38.	- 1 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	1 6 36	288 288 388	1 10 36 1 11 36	1 12 36	232	1 4 57 57	1 2 3	120	4 3 3 3	9 = WNS	MAX =	" XIW	PNAX=	AV6	PAIN

213. 213.040	C.P. 213 FLOW REG	12721 12721 12721 12721 12001 13003
213. 213.080	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213.070	C.P. 213 MIN REQU	1000 1000 1000 1000 1000 1000 1000 100
212. 212.060	DUMMY CP DEG-SHOR	888888888888888888888888888888888888888
1 212. 212.050	DUMMY CP MIN DESI	250 00 00 00 00 00 00 00 00 00 00 00 00 0
FLOOD= 4.100	RES NO.4 OUTFLOW	12221 12221 12321 12321 12321 12321 12321 12331
PERIOD 4.120	RES NO.4 Case	88888888888888888888888888888888888888
SUMMARY BY 4.130	RES NO.4 LEVEL	######################################
4. 220	RES NO.4 EOP ELEV	14244 142441 142441 142441 142441 142241 142
4. 4.110	RES NO.4 EOP STOR	71500.00 71500.00
	書	PHI THI SHI SHI SHI SHI SHI SHI SHI SHI SHI S
	Y.	7.7.7.8.8.8.8.8.8.8.8.8.8.7.7.7.7.7.7.7
	DY MO	
CODE=	PER D	

213.	C.P. 213 FLOW REB	255.00 255.00 256.00 25
213.	C.P. 213 REQ-SHOR	888888888888888888888888888888888888888
213.	C.P. 213 MIN REQU	15000000000000000000000000000000000000
212.	DUMMY CP DEQ-SHOR	888888888888888888888888888888888888888
212.	DUMMY CP MIN DESI	2550 25 25 25 25 25 25 25 25 25 25 25 25 25
4	RES NO.4 OUTFLOW	245.00 245.00 245.00 245.00 25
4.	RES ND.4 CASE	33333336833333333333333333333333333333
***	RES NO.4 LEVEL	88888888888888888888888888888888888888
4.	RES NO.4 EOP ELEV	142244 14224 142244
₹.	RES NO.4 EOP STOR	71500.00 71500.00
=9	PER DY MO YR DW	88888888888888888888888888888888888888
207		

213.	C.P. 213 FLOW REG	249.32 250.00 25	66668.95	3096.88	165.00	101.00	555.57	40.00
213.	C.P. 213 RED-SHOR	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
213.	C.P. 213 MIN REQU	10000000000000000000000000000000000000	17760.00	400.00	100.00	35.00	148.00	1.00
212.	DUMMY CP DEG-SHOR	888888888888888888888888888888888888888	200.00	100.00	0.00	39.00	1.67	1.00
212.	DUMMY CP MIN DESI	27222222222222222222222222222222222222	30140.00	400.00	200.00	35.00	251.17	1.00
4	RES NO.4 OUTFLOW	249. 32 252. 32 252. 32 252. 32 252. 32 252. 32 253. 3	66668.95	3096.88	165.00	101.00	555.57	40.00
4	RES NO.4 CASE	25 25 25 25 25 25 25 25 25 25 25 25 25 2	8485.40	213.00	0.03	39.00	70.71	1.00
*	RES NO.4 LEVEL	88888888888888888888888888888888888888	348.43	3.00	1.85	1.00	2.90	40.00
4.	RES NO.4 EDP ELEV	14224 14224 14224 14224 14224 13383 13383 14224	170004.79	1424.31	1296.33	1.00	1416.71	40.00
4	RES NO.4 EOP STOR	71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00		71500.00	1739.12	101.00	64952.91	40.00
LOC NO=	PER DY MO YR DW	23243254325 20100000000000000000000000000000000000	SUM = 77	# XW	" ZI	PMAX=	AV6 =	-MIM-

RUNIO - SUMMARY GUTPUT

213. 213.040	C P 213 FLOW REG	1108.07 10094.07 10080.07 10080.07 10056.07 1010.07 10
213. 213.080	C P 213 Red-shor	888888888888888888888888888888888888888
213. 213.070	C P 213 MIN REQU	
213. 213.060	C P 213 DEG-SHOR	888888888888888888888888888888888888888
1 213. 213.050	C P 213 MIN DESI	666666666666666666666666666666666666666
FLOOD= 4.220	RES 4 EOP ELEV	14550:0000000000000000000000000000000000
PERIOD 4. 4.130	RES 4 LEVEL	8888888888888888888888888888888888888
SUMMARY BY 4.	RES 4 Eop stor	11106490.000
4.380	RES 4 Top con.	11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000 11106490.000
4.090	RES 4 INFLOW	1104 1076.11 1076.10 1
LOC NO= CODE=	PER DY NO YR DW	22222222222222222222222222222222222222

213.	C P 213 FLOW REG	44444444444444444444444444444444444444
213.	C P 213 REQ-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN REQU	000000000000000000000000000000000000000
213.	C P 213 DEQ-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN DEST	64444444444444444444444444444444444444
*	RES 4 EOP ELEV	14450.000 14450.000 14450.000 14460.
4	RES 4 LEVEL	88888888888888888888888888888888888888
*	RES 4 EOP STOR	110690.00 110640.00 110640.00 110640.00 110652.35 110050.94 110050
***	RES 4 TOP CON.	11106490.000
4	RES 4 INFLOW	44444144444444444444444444444444444444
	*	12345671234567123456712345671234567123456
	O YR	22222222222222222222222222222222222222
	DY MO	21745471850222222222222220200000000000000000000
COC NO=	PER	44444444000000000000000000000000000000

213.	C P 213 FLOW REG	
213.	C P 213 Red-Shor	888888888888888888888888888888888888888
213.	C P 213 MIN REDU	888888888888888888888888888888888888888
213.	C P 213 DEQ-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN DESI	
4.	RES 4 EOP ELEV	1440. 1439.96 1439.96 1438.96 1438.93 1438.72 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1438.73 1428.73
. 🕶	RES 4 LEVEL	201010101010101010101010101010101010101
4	RES 4 EOP STOR	95281, 49 94312, 22 94312, 23 94312, 23 94312, 23 93312, 23 93312, 23 91979, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 917979, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91797, 83 91779, 83 91779, 83 91779, 83 91779, 83 91779, 83 91779, 83 91779, 83 91779, 83 91779
#2 7 *	RES 4 TOP CON.	99999999999999999999999999999
4	RES 4 INFLOW	88888888888888888888888888888888888888
TOC NO=	PER DY NO YR DW	192249999999999999999999999999999999999

RUNIO (CONTINUED)

213.	C P 213 FLOW REG	
213.	C P 213 RED-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN REQU	
213.	C P 213 DEG-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN DESI	\$5555555555555555555555555555555555555
4	RES 4 EOP ELEV	1422.152 1422.152 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1422.153 1423.153 1433 1433 1433 1433 1433 1433 1433 1
4	RES 4 LEVEL	######################################
4	RES 4 EOP STOR	68858.75 668858858.75 66885885 66885 66885885 66885885 66885885 66885885 66885885 66885885 66885
4	RES 4 Top con.	153170.32 153470.33 152441.31 152441.33 164344.33 164344.33 164344.33 173528.33 177528
4	RES 4 INFLOW	######################################
COC NO=	PER DY NO YR DW	100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

RUNIO (CONTINUED)

213.	C P 213 FLOW REG	64444444444444444444444444444444444444
213.	C P 213 REQ-SHOR	888888888888888888888888888888888888888
213.	C P 213 MIN REQU	888888888888888888888888888888888888888
213.	C P 213 DEQ-SHOR	
213.	C P 213 MIN DESI	
4	RES 4 EOP ELEV	1349.26 1388.32 1388.3
4.	RES 4 LEVEL	244222221110000000000000000000000000000
47	RES 4 Eop stor	3.6524, 73 3.5524, 73 3.55071, 09 3.4372, 26 3.3539, 53 3.5539, 53
**************************************	RES 4 TOP CON.	18800000000000000000000000000000000000
4	RES 4 INFLOW	######################################
	¥0	でもアースでもでもとうとなるでしたとのもなってもころもでもとしてもころもにもしてもころも
	AS YR	222222222222222222222222222222222222222
**	À	222222222222222222222222222222222222222
LOC NO.	PER	33333333355555555555555555555555555555

213.	C P 213 FLOW REB	2011.000 2011.0	
213.	C P 213 REQ-SHOR	888888888888888888888888888888888888888	>
213.	C P 213 MIN REQU	82222222222222222222222222222222222222	> > > >
213.	C P 213 DEG-SHOR	00000000000000000000000000000000000000	:
213.	C P 213 MIN DESI		; ; ;
4.	RES 4 EOP ELEV	134444 134444 134444 134444 134444 1344	; ; ;
*	RES 4 LEVEL	**************************************	· •
4	RES 4 EOP STOR	1118335 1118335 1118183 111818 111818 111818 111818 11818 11818 11818 11818 11818 11818 11818 11818 11818 11818 11818 1	
*	RES 4 TOP CON.	180000.00 180000.00 180000.00 177227.60	
4	RES 4 INFLOW	20000000000000000000000000000000000000	
	書	34727845547284555728455547284555472845554728	
	0 YR	<i>ช่องล่องสว</i> ดสวดสวดสวดสวดสวดสวดสวดสวดสวดสวดสวดสวดสวด	
	DY MG	184248884-2004n4-800113545451818181818284840404040404040404040404040404040404	
2	PER 1	22822222222222222222222222222222222222	
39	_		

213.	C P 213 FLOW REG	24444444444444444444444444444444444444	400.00
213.	C P 213 REQ-SHOR	88888888888888888888888888888888888888	 0
213.	C P 213 MIN REQU	88888888888888888888888888888888888888	100.00
213,	C P 213 DEQ-SHOR	34444444444444444444444444444444444444	0.00
213.	C P 213 MIN DESI	\$2555555555555555555555555555555555555	400.00
4	RES 4 EOP ELEV	1300.000 130	1352,83
4	RES 4 LEVEL	22333883338888388888888888888888888888	2.10
4.	RES 4 EOP STOR	2000 2000 2000 2000 2000 2000 2000 200	13350.69
4.	RES 4 TOP CON.	1110649010000000000000000000000000000000	110690.00
4.	RES 4 INFLOW	27272727272727272727272727272727272727	611.00
FOC NO=	PER DY MO YR DW	288	27 11 29

213.	C P 213 FLOW REG	54444444444444444444444444444444444444	151486.39	1108.07	100.00	1.00	415.03	223.00
213.	C P 213 Red-shor	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
213.	C P 213 MIN REQU	888888888888888888888888888888888888888	36500.00	100.00	100.00	1.00	100.00	1.00
213.	C P 213 Ded-shor	888888888888888888888888888888888888888	11519.24	300.00	0.00	223.00	31,56	1.00
213.	C P 213 MIN DESI		146000.00	400.00	400.00	1.00	400.00	1.00
4.	RES 4 EOP ELEV	1355.135.135.135.135.135.135.135.135.135	506801.49	1450.00	1300.00	1.00	1388.50	265.00
4	RES 4 LEVEL	222222222222222222222222222222222222222	873.40	3.00	1.98	1.00	2.39	236.00
4.	RES 4 EOP STOR	13772.04 14195.46 14195.46 15042.25 15565.60 15789.03 16314.50 16314.50 17591.37 18019.12 18019.12 18019.13 19273.03 19683.20 22069.33	504089.79	110690.00	2000.00	1.00	50696.14	266.00
4.	RES 4 Top con.	1006990.00000000000000000000000000000000	5.0048511120.0018504089.79	180000.00	110690.00	151.00	132907.18	1.00
4.	RES 4 INFLOW	660 000 000 000 000 000 000 000 000 000	108465.0048	1104.00	29.00	1.00	297.16	193,00
LOC NO=	PER DY MO YR DW	332 3333 3333 3333 3333 3333 3333 3333	= WOS	MAX =	" NIE	PNAX=	AV6 =	PMIN=

213.040	C P 213 FLOW REG	24444444444444444444444444444444444444
213. 213.080	C P 213 REQ-SHOR	888888888888888888888888888888888888888
213. 213.070	C P 213 MIN REQU	888888888888888888888888888888888888888
213. 213.060	C P 213 DEQ-SHOR	888888888888888888888888888888888888888
1 213. 213.050	C P 213 MIN DESI	44400.00000000000000000000000000000000
FLOOD= 4.220	RES 4 EOP ELEV	1425.48 1425.42 1426.62 1426.62 1430.47 1431.17 1431.17 1431.18 1431.17 1431.18 1442.03 1442.17 1442.17 1443.43 1443.43 1443.43 1443.43 1443.43 1443.43 1443.43 1444.03
PERIOD 4.130	RES 4 LEVEL	24444444444444444444444444444444444444
SUMMARY BY 4.		72902.13 74276.57 77524.16 77936.27 80237.59 81346.57 81348.10 83481.81 81346.67 85506.09 88534.69 88741.67 87419.53 90081.85 90081.85 90081.85 90081.85 90081.85 90081.85 90081.85 90081.85 90081.85 90081.85 90081.69 90081.69 90081.77
	RES 4 TOP CON.	110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00
4.090	RES 4 INFLOW	1104.00 1076.0
LOC NO= CODE=	PER DY MD YR DW	44.6 38.32.32.32.32.32.32.32.32.32.32.32.32.32.

213.	C P 213 FLOW REG	\$4444444444444444444444444444444444444	450.00 450.00 450.00
213.	C P 213 REQ-SHOR	28828888888888888888888888888888888888	8888
213.	C P 213 MIN REQU	88888888888888888888888888888888888888	100.00
213.	C P 213 DEQ-SHOR	28222828282828282828282828282828282828	8888
213.	C P 213 MIN DESI	\$	4420.00 450.00 50.00
4	RES 4 EOP ELEV	1444, 1444,	1432.49 1432.64 1432.29 1431.94
		125577788434888888888888888888888888888888	Octob
	RES 4 LEVEL	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	inni
4.	RES 4 RES 4 EDP STOR LEVE	82282828242444444444444444444444444444	82609.84 2.7 82640.79 2.7 81471.69 2.7
4.	STOR	1000484 10004844.00 10004844.00 10004844.00 10004844.00 1000484.00 10004	2286
4. 4.	CON. EOP STOR	1000744 10007444.1 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000744.2 1000747.2 1000744.2 1000744.2 1000744.2 1000747.2 1000747.2 100074.2 1000774.2	00 110690.00 82609.84 00 110690.00 82609.84 00 110690.00 81471.69
LOC NO= 4. 4. 4.	RES 4 RES 4 IM TOP CON, EOP STOR	0.00 110690.00 100142.90 110690.00 110690.00 100144.62 12.00 110690.00 110690.00 100144.62 12.00 110690.00 110690.00 1001442.30 110690.00 110690.00 1001442.30 110690.00 110690.	29 3 29 4 160.00 110690.00 8240.87 30 3 29 5 159.00 110690.00 82609.84 31 3 29 6 159.00 110690.00 81471.69

	.																											
213.	C P 213 FLOW RE	450.00 450.00	450.00	450.00	450.00	450.00 450.00	450.00	450.00	450.00	450.00	400.00	400	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400	400.00	400	400.00	400	400.00 400.00	400.00 400.00
213.	C P 213 REQ-SHOR	888	388	888	888	88	900	88	888	38	98	888	88	000	88	e e	000	88	88	88	88	88	88	888	38	88	°°°	000
213.	C P 213 MIN REQU	900	888	90.00	100.00	100.00	100.00	90.00	00.00	38.	99. 8. 8. 8.	100	100.00	100.00	20.00	.00.00 .00.00	100.00	100.00	100.00	00.00	100.00	38. 88. 88.	100.00	100.00	100.00	100.00	100.00	100.00
213.	C P 213 Deg-shor	888	388	888	888	88	88	000	888	88	000	200	38	88	88	88	88	888	88	88	888	38	88	000	38	88	00 00	000
213.	C P 213 MIN DESI	450.00 450.00	450.00 0.00 0.00	450.00	420.00	450.00	450.00 450.00	450.00	450.00	450.00	400.00 400.00	96	36.	400.00 400.00	90.00	400.00 00.00	400.00	900	60.9 90.0	400 400 000 000	900	400.00 0.00	400.00 0.00	400	600.00	400.00 400.00	400.00	400.00 400.00
4	RES 4 EOP ELEV	1431.59	1430.53	1429.76	1428.80	1427.84	1427.36	1426.40	1425.43	1424.46	1424.06	1423.25	1422.44	1422.02	1421.17	1420.73	1419.83	1418.90	1417.95	1417.45		1415.46	1414.95	1413.94	1412.92	1412.40 1411.88	1411.37	1410.33
4	RES 4 LEVEL	2,73	2.71	2.79	2.69	2.68	2.67	2.66	2.65	2.64	2.64	2.63	2.62	2.61	5.60	2.59	2.59	2.28	2.55	2.53	2.20	2.47	2.45	2.44	2.41	2.40 2.39	2.38	2.35
*	RES 4 EOP STOR	80903,98 80334,23 79764,43	79192.59	78046.78	76898.77	75746.57	75168.41	74009.92	72849.23	71684.35	71199.01	70226.23	69247.30	68749.84	67728.97	66664.26	65541.44		63855.35	63260.01	62067.32	60860.69	60255.37 59646.07	59034.78	57810.17	56565.67	55944.40	54/01.81 54082.48
4	RES 4 TOP CON.	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	115161.61	117397.42	121869.03	126340.65	128576.45 130812.26	133048.06	137519.68	139/55.48	144227.10	148678./1 150934.52
4	RES 4 INFLOW	158.00 158.00											38	88	88	38	88	888	38	88	88	38	88	88	888			
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213.	C P 213 FLOW REG	00000000000000000000000000000000000000	444444 0000000000000000000000000000000	00000000000000000000000000000000000000	444444 0000000000000000000000000000000	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
213.	C P 213 Red-shor	8888888	3888888	888888	8888888	888888888	888888888888
213.	C P 213 MIN REQU	2222222	3000000	8098888	88888888	8888888888	900000000000000000000000000000000000000
213.	C P 213 DEQ-SHOR	88888888	3888888	8888888	8888888	888888888	888888888888
213.	C P 213 MIN DESI	99999999	444444 60000000000000000000000000000000	644444 00000000000000000000000000000000	4444444 6000000000000000000000000000000	4444444 6000000000000000000000000000000	44444444444444444444444444444444444444
4	RES 4 EOP ELEV	1409,11 1408,45 1407,76 1407,08 1406,39 1405,70	1403, 62 1402, 90 1402, 18 1401, 44 1399, 98	1399.24 1397.76 1397.03 1396.29	1394.10 1394.10 1392.64 1391.90 1391.16	1387,60 1388,64 1388,64 1386,71 1385,73 1383,75 1382,76 1381,76	1380.76 1379.76 1379.76 1376.76 1375.76 1375.76 1372.75 1371.74 1370.74
শ্ব	RES 4 LEVEL	***************************************				75555555555555555555555555555555555555	
4	RES 4 EOP STOR	53465.12 52845.76 52202.59 51559.41 50211.24 50271.03 49623.85	48319.53 47646.53 46973.51 46280.64 45599.67	44219, 01 43525, 69 42834, 34 42142, 99 41455, 60 40766, 21	39397.33 38713.86 38038.33 37344.93 35966.04	25276.57 34595.05 33231.52 322540.47 31837.08 31135.66 29728.22	29021.41 28314.00 22665.58 26191.70 25476.77 24776.77 2476.61 23356.49 22643.34 21930.18
₹	RES 4 Top con.	153170.32 155406.13 157641.94 159877.74 162113.55 166585.16	171056.77 171056.77 173528.39 177764.19 180000.00	180000.00000000000000000000000000000000	80000000000000000000000000000000000000	1880000.00 1880000.00 1880000.00 1880000.00 1880000.00 1880000.00	180000.00 180000.00 180000.00 180000.00 180000.00 180000.00
4	RES 4 Inflow	8.25.25.25.25.25.25.25.25.25.25.25.25.25.	-00000	うらうけいだい	28888888 14662466	ກ່າວຄຸ້ນເວັດຄຸ້ນກໍາ	######################################
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	O YR						777777777777777777777777777777777777777
	ور م					*	42322222 4232222 4444 4444 4444 4444 44
# 2 3	E						122 122 132 183 183 183 183 183 183 183 183 183 183
20							

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213.	C P 213 FLOW RE	84444444444444444444444444444444444444	, , , ,
213.	C P 213 REQ-SHOR	888888888888888888888888888888888888888	! ! !
213.	C P 213 MIN REQU	800000000000000000000000000000000000000) , , ,
213.	C P 213 Ded-Shor	88888888888888888888888888888888888888	
213.	C P 213 MIN DESI		
4	RES 4 EOP ELEV	1366.53 1366.53 1366.53 1366.53 1366.53 1356.53 1356.53 1357.22 1357.22 1357.22 1357.22 1357.22 1357.22 1357.22 1357.22 1357.23 1357.22 1357.22 1357.22 1357.22 1357.22 1357.22 1357.22 1357.23 1357.22 1357.23	
4	RES 4 LEVEL		
4	RES 4 EOP STOR	19782.64 19782.64 19782.64 19782.64 19782.64 19782.64 19782.64 19782.64 19782.64 19782.90 19782.90 19782.90 19782.90 1978.90	
₹.	RES 4 TOP CON.		
4	RES 4 INFLOW	2.5.5.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	
	3	3 ら アースではららてしてるなららてしてできるでしてころなららてしてではららてしてできま	
	. YB	***************************************	
	OY MO	222224275543711048765432111343432222222222222222222222222222	
2	PER 11	22222222222222222222222222222222222222	
3			

213.	C P 213 FLOW REG	222221124242426666666666666666666666666
213.	C P 213 Red-shor	888888888888888888888888888888888888888
213.	C P 213 MIN REQU	888888888888888888888888888888888888888
213.	C P 213 DEQ-SHOR	25
213.	C P 213 MIN DESI	64444444444444444444444444444444444444
4.	RES 4 EOP ELEV	1228866 1228867 1228867 123866 123867 123866 123867 123867 123866 123867 123866 123
4.	RES 4 LEVEL	
4	RES 4 EOP STOR	1073.27 1073.27 1073.27 1073.3
***	RES 4 TOP CON.	180000.00 180000.00 180000.00 180000.00 174455.20 174455.20 174455.20 174455.20 174455.20 17455.20 17455.20 17455.20 17455.20 17455.20 17456.20 17576.00
4.	RES 4 INFLOW	220
	DY NO YR DW	4234282828 4234282828 423428428 423428428 423428 43428
LOC NO=	PER	2828882454545454545656666666666666666666

213.	C P 213 FLOW REG	233.94 246.94 260.94 273.94	300.94	326.94 340.94	353.94 366.94	393,94 400,00	400.00	400.00 60.00	400.00 400.00	400.00 400.00	400.00 400.00	400.00	00.00	400.00 00.00	400.00	400.00 400.00	400.00 400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
213.	C P 213 REQ-SHOR	8888	888	888	888	888	88	88	88	88	88	88	888	888	383	88	88	88	88	88	88	388	388	38
213.	C P 213 MIN REQU	00000	0000	00.00	86.8	00.00	100.00	00.00	100.00	90.00	100.00	100.00	000	20.00	90.00	100.00	100.00	100.00	100.00	100.00	100.00	20.00	90.0	100.00
213.	C P 213 DEQ-SHOR	166.06 153.06 139.06 126.06	113.06 99.06 86.06	53.06 59.06	33.06	90.0	000	000	88	88	88	0.0	88	888	88	88	88	0.0 0.0	88	000	0.0	300	388	300
213.	C P 213 MIN DESI	444 400.004 00.000	400.00 400.00	400.00	400.00 00.00	400.00	400.00	400.00 400.00	400 600 600 600 600 600 600 600 600 600	400.00	400.00 400.00	400.00 400.00	400	400.00	400.00	4 00	400.00 400.00	400.00 400.00	400.00 400.00	400.00	400.00	400.00 00.00	000	400.00
4.	RES 4 EOP ELEV	1300.00 1300.00 1300.00	1300.00 1300.00	300.00	288	1300.00	1300.42	1301.61	1304.86	1308.02	1309.89	1314.24	1319.36	1325.14	1328.26	1327.82	1332.93	1336.07	1339.21	1342,35	1345.51	1348.67	1351.04	1352.83
₩.	RES 4 LEVEL	%%%% %%%% %%%% %%% %% %% % % % % % % %	888	.88: .88:	388		25.5		2.00	2.01	2.01 2.01	2.02 2.02	2.02	25.03	25.5	7.02	2.02 2.05	2.08 2.08	2.07	2.07	2.08	2.09	25.5	2.10
4.	RES 4 EOP STOR	2000.00 2000.00 2000.00	2000.00 2000.00 2000.00	2000	2000. 2000.	2000.00	2057.30	2338.59	2657.67	3084.78	3337,54 3618,14	3924.58 4256.88	5003.05	5416.93	6244.93	7073.23	7487.50	8320.22 8736.69	9153.24 9569.86	9988.55 10407.31	10826.14	11666.03	12508.20	13350.69
**************************************	RES 4 TOP CON.	110690.00 110690.00 110690.00	110690.00 110690.00 110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00	110690.00 110690.00	110690.00 110690.00	110690.00	110690.00	110690.00	110690.00	110690.00
4	RES 4 INFLOW	234.00 247.00 261.00 274.00																			• •			
LOC NO=	PER DY MO YR DW	285 12 10 29 4 285 12 10 29 5 286 13 10 29 6 287 14 10 29 7	15 10 29 16 10 29 17 10 29	18 10 29 19 10 29	23.2 2019 2019 2019	23 10 23 23 23	28 23 28 29 28 20 28 20 26 20	28 10 24 28 10 24 28 10 24	20 10 24 20 10 24 21 10 24	252	3 11 29	4 11 29 5 11 29	6 11 29 7 11 29	8 11 29 11 29	10 11 29	12 11 29	14 11 29	15 11 29 16 11 29	17 11 29 18 11 29	19 11 29 20 11 29	21 11 29 22 11 29	23 11 29	25 11 29 26 11 29	27 11 29

213.	C P 213 FLOW REG		131639.99	450.00	100.00	3.00	360.66	214.00
213.	C P 213 RED-SHOR	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
213.	C P 213 MIN REQU	888888888888888888888888888888888888888	36500.00	100.00	100.00	1.00	100.00	1.00
213.	C P 213 DED-SHOR	888888888888888888888888888888888888888	19610.11	300.00	0.00	214.00	53.73	1.00
213.	C P 213 MIN DESI	44444444444444444444444444444444444444	151250.00	450.00	400.00	3.00	414,38	1.00
4.	RES 4 EOP ELEV	1353.73 1355.54 1355.54 1355.34 1357.34 1358.24 1358.27 1369.05 1369.36 1369.36 1369.37 1369.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38 1370.38	501144.58	1444.04	1286.95	42.00	1373.00	236.00
4.	RES 4 LEVEL	22222222222222222222222222222222222222	836.54	2.91	1.45	42.00	2.29	236.00
4	RES 4 EOP STOR	13772.04 14195.46 14195.46 15042.25 15465.65 15889.03 16740.05 17165.68 17591.37 18019.12 1875.03 19687.03 19687.03 19687.03 22045.13 22045.13 22045.13 22052.31 22052.31 22052.31 22052.31 22052.31 22057.08 22057.08	727515.83	101053.49	1073.27	42.00	40349.36	236.00
4.	RES 4 TOP CON.	110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00 1110640.00	5.0048511120.0014727515.83	180000.00	110690.00	151.00	132907.18	1.00
4.	RES 4 INFLOW	6612268666676768666676768666767686676768667676866767686676767676767676767676767676767676767676	108465.0046	1104.00	29.00	1.00	297.16	193.00
LOC NO=	PER DY MO YR DW	3333 333 333 333 333 333 333 333 333 3	# X	# XAW	NIN =	PMAX=	AV6 =	PMIN=

RUN12 - SUMMARY OUTPUT

213. 213.040	C.P. 213 FLOW REB	1152.75 1152.75 1152.75 1252.75 1252.75 126
213. 213.030	C.P. 213 DIVERSIO	8833474447588888888888888888888888888888
4.310	RES NO.4 DIV SHOR	00000000000000000000000000000000000000
4. 4.030	RES NO.4 DIVERSIO	88888888888888888888888888888888888888
1 4.300	RES NO.4 DIV REQU	
FL00D= 4.100	RES NO.4 DUTFLOW	1071. 3702.05 1238.888.989.95 1215.370.00 37
PERIOD 4. 4.120	RES NO.4 Case	88444468888888888888888888888888888888
SUMMARY BY 4. 4.130	RES NO.4 Level	29888888888888888888888888888888888888
4. 4.220	RES NO.4 EDP ELEV	1424. 1424. 1424. 1424.31. 142
4.110	RES NO.4 EOP STOR	71500.00 70340.02 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 7236.17 1504.45 1504.45 1504.67 1506.00 700.00 700.00 700.00 700.00 700.00 700.00 700.00 700.00 700.00
CODE=	PER DY MO YR DW	24.6 38 33 33 33 32 22 22 22 22 22 22 22 22 22
스		

213. C.P. 213	
213. C.P. 213	
4. RES NO.4	137000000000000000000000000000000000000
4. RES NO.4	
4. RES NO.4	40440000000000000000000000000000000000
4. SES NO.4	
A. RES NO.4	
COC NO=	######################################

	213.	C.P. 213 FLOW REG	429.32	400.00	400.00	400.00 00.00	400.00	2447.77	400.00	400.00 400.00	286.69	20.8	26.53 400.00	400.00	400.00	1018.79	400.00	400.00 400.00	400.00 400.00	53372.12	2447.77	36.24	101.00	444.77	107.00
	213.	C.P. 213 DIVERSIO	-30.00	36.68 76.68	38.	8.8 8.8	30.00	38.88 88.88	30.00	-30.00	-30.00	-22.29	-30.00 -30.00	23.03	38.8	-30.00	38: 38:	99. 99.	88. 88. 88.	-3447.35	-8.61	-30,00	107.00	-28.73	1.00
	4.	RES NO.4 DIV SHOR	888	888	38	88	88	888	80	88	00.00	38.57	0.00 00.00	88	88	000	88	88	00 00	763.27	106.96	0.00	107.00	6.36	1.00
	4.	RES NO.4 DIVERSIO	150.00	20.00	120.00	120.08 120.08	150.00	20.00	120.00	120.00	150.00	111.43	150.00	20.00	200	150.00	200	120.00	150.00	17236.73	150.00	43.04	1.00	143.64	107.00
	4	RES NO.4 DIV REDU	150.00	120.00	120.00	120.00	20.00	20.00	120.00	20.00	150.00	200	20.00	120.03	20.00	150.00	200	120.00	120.00	18000.00	150.00	150.00	1.00	150.00	1.00
	₹	RES NO.4 OUTFLOW	370.00	370.00	370.00	370.00	370.00	2417.77	270.55	370.00	256.69	28.57	370.00	370.00	32.02	988.79	370.05	370.8	370.00 370.00	49924.78	2417.77	27.55	101.00	416.04	39.00
	₹	RES NO.4 CASE	213.00	213.00	213.00	213.00 213.00	213.00	0.0	213.00	213.00	213.00	0.07	0.0/ 213.00	213.00	213.00	0.0	213.00	213.00	213.00	17680.59	213.00	0.03	3.00	147.34	1.00
·	4.	RES NO.4 LEVEL	868 888 888	2.76	2.18	2,49	2.73		2.88	2.5 6	2.00 1.00	889	2.8	2.44	2.87	88 88	2.8	2.47	2.21	289,42	3.00	1.00	1.00	2.41	38,00
i	*	RES NO.4 EOP ELEV	1424.31 1417.60 1424.31	1410.64	1354.93	1390.42 1401.86	1408.17	1424.31	1416.29	1372.24	1300,00	1270.23	12/0.23	1385.75	1416.81	1424.31	1416.37	1388.92	1359.79 1382.82	64966.24	1424.31	1270.23	1.00	1374.72	36.00
	4	RES NO.4 EOP STOR	71500.00 63436.89 71500.00	55073.77	14336.47	35,752,55 46676,42	52589.26 41093.08	71500.00	61865.21	22993,73	2000.00 300.00	300.00	2694.63	32552.53	62486.74	71500.00	61960.70	34795.68	16616.80 30480.44	4488520.41	71500.00	300.00	2.00	37404.34	38.00
	-00 ND=	PER DY MO YR DW	91 1 4 35 1 92 1 5 35 1 93 1 6 35 1	 		22 ===================================	1 12 35	48	100 100 100 100 100 100 100 100 100 100	98 09 11	1 7 36 1 8 36	18 18 18	22 2 2 1 1	12 22 23	23.5	 8 4 75	2	170	1 6 37	SUM = 44	# XAM	" NIW	PNAX=	# AV6 =	-NIW-

RUN13 - SUMMARY OUTPUT

213. 213.040	C.P. 213 FLOW REG	11121, 41521, 104 400, 00 1268, 635, 105 1268, 105
213.	C.P. 213 DIVERSIO	1450.00000000000000000000000000000000000
213. 213.300	C.P. 213 DIV REDU	00000000000000000000000000000000000000
213. 213.060	C.P. 213 DEQ-SHOR	0.000000000000000000000000000000000000
1 213. 213.050	C.P. 213 MIN DESI	44444444444444444444444444444444444444
FLOOD= 4.100	RES NO.4 OUTFLOW	12221 12221 12221 1388: 80 1365: 95 1365:
PERIOD 4. 4.120	RES NO.4 CASE	00000000000000000000000000000000000000
SUMMARY BY 4. 4.130	RES ND.4 LEVEL	00000000000000000000000000000000000000
4.220	RES NO.4 EDP ELEV	1424. 1424. 1424.31 1424.31 1424.31 1424.31 1417.19 1417.19 1417.19 1555.55 1555.65 15
4.110	RES NO.4 EOP STOR	71500.00 71500.00
CODE=	PER DY MO YR DW	214 538 78 53 53 52 52 52 52 52 52 52 52 52 52 52 52 52

	213 REG		o 10
213.	C. P. 2	00000000000000000000000000000000000000	646.5
213.	C.P. 213 DIVERSIO	505556747575757575757575757575757575757575	120.00
213.	C.P. 213 DIV REQU		120.00
213.	C.P. 213 DE0-SHOR	9999339244399993899999999999999999999999	38
213.	C.P. 213 MIN DESI		400.00
4	RES NO.4 OUTFLOW	1820 000 000 000 000 000 000 000 000 000	766.55
4	RES NO.4 CASE	28888888888888888888888888888888888888	0.03
4	RES NO.4 LEVEL		38
4.	RES NO.4 EDP ELEV	1270.233 1270.2	1424.31
4.	RES NO.4 EOP STOR	34700.00 34700.00 34700.00 300	
	3		
	XX.	48 <i>5</i> 55555555555555555555555555555555555	
	2		
ë	PER DY	\$444444650000000000000000000000000000000	
3			

RUNIS (CONTINUED)

213.	C.P. 213 FLOW REG	74644 74604 74604 74706 74	53295.94	2428.10	0.00	101.00	444.13	72
213.	C.P. 213 DIVERSIO	000000000000000000000000000000000000000	13777.26	150.00	43.01	3.00	114.81	107.00
213.	C.P. 213 DIV REDU	000000000000000000000000000000000000000	14000.00	150.00	100.00	3.00	116.67	90
213.	C.P. 213 DEQ-SHOR	448 2424 2424 2424 2424 2424 2424 2424	5544,13	400.00	0.00	36.00	46.20	1.00
213.	C.P. 213 MIN DESI		48000.00	400.00	400.00	1.00	400.00	1,00
**	RES NO.4 OUTFLOW	1060.00 106	67073.20	2568.10	43.01	101.00	558.94	107.00
₹	RES NO.4 CASE	00000000000000000000000000000000000000	15338.36	213.00	0.03	3.00	127.82	1.00
4.	RES NO.4 LEVEL	0855886844555556845886854555555555555555	278.50	3.00	1.00	1.00	2.32	36.00
4	RES NO.4 EOP ELEV	1424. 1424. 1411.4. 136163. 136163. 136163. 140563. 140563. 127023. 127033. 12	164687.67	1424.31	1270.23	1.00	1372.40	14.00
₩.	RES NO.4 EDP STOR	71500.00 564657.05 56303.94 57089.46 17987.23 57089.46 17987.23 57089.60 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00 57050.00	505553,95	71500.00	300.00	101.00	37546.28	37.00
COC NO=	PER DY MO YR DW	2000 000 000 000 000 000 000 000 000 00	SUM = 45	# XAX	" X	PMAX=	# 9/VB =	-NIN-

213. 213.040	C.P. 213 FLOW REG	00000000000000000000000000000000000000
213.	C.P. 213 DIVERSIO	100 100 100 100 100 100 100 100 100 100
213.300	C.P. 213 DIV REQU	20000000000000000000000000000000000000
213. 213.060	C.P. 213 DEQ-SHOR	00000000000000000000000000000000000000
1 213. 213.050	C.P. 213 MIN DESI	66666666666666666666666666666666666666
FLOOD= 4.100	RES NO.4 OUTFLOW	12211 127211
PERIUD 4.120	RES NO.4 CASE	00000000000000000000000000000000000000
SUMMARY BY 4. 4.130	RES NO.4 LEVEL	88888888888888888888888888888888888888
4. 4.220	RES NO.4 EOP ELEV	1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1370.233 1
4.110	RES NO.4 EOP STOR	71500.00 566455.38 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 700.00
CODE= CODE=	PER DY NO YR DW	120.42.3/28.25.25.25.25.25.25.25.25.25.25.25.25.25.

213.	C.P. 213 FLOW REG	400.00 400.00 60.00	138.96	365.00	318.06	80.00 00.00 00.00	400.00 353.68	319.00	400.00 00.00	400.00 400.00	400.00 471.57	419.32 400.00	400.00 400.00	750.89 400.00	400.00 400.00	60.00 10.00	400.00 400.00	400.00 10.00	26.02 363.01	314.00	400.00 400.00	400.00 400.00 564.56
213.	C.P. 213 DIVERSIO	120.00	74.00 74.00	133,10	140.00	145.00 120.00	100.00	77.01 110.00	120.00	120.00 225.00	225.00 245.00	240.00 255.00	260.00 270.00	125.00	240.00 260.00	265.00 255.00	270.00 270.00	722 725 160 160 160	145.00	110.00	145.00	120.00 120.00 120.00
213.	C.P. 213 DIV REQU	120.00	120.00	120.00	140.00	145.00 120.00	100.00	105.00 110.00	120.00	120.00 225.00	225.00 245.00	240.00 255.00	260.00 270.00	125.00	240.00 260.00	265.00 255.00	270.00 270.00	255.00	145.00	110.00 120.00	145.00	120.00 120.00 120.00
213.	C.P. 213 DEG-SHOR	8888	261.04 400.00	34.90	40.0	888	46.32	400.00 81.00	88	888	88	88	000	000	88	888	900	289.05	373.98	96.00 0.00	888	888
213.	C.P. 213 MIN DESI	4400.00 4400.00	4 4 4 00 00 00	60°6	400.00 400.00	86.9 86.9	400.00	400.00	400.00 400.00	400.00 .000.00	400.00	400 400 600 600 600 600 600 600 600 600	400 600 600 600 600 600 600 600 600 600	400.00	400 600 600 600 600	66.00 00.00	44.4 60.00 00.00	400.00 00.00	400.00	400.00 400.00	000	400.00 400.00
4	RES NO.4 OUTFLOW	550.00 510.00 520.00	283.96 74.00	133.10	433.06 530.06	520.5 5.00 5.00 5.00	500.00 463.68	429.00	222.00	520.00 625.00	716.57	655.00	670.00	860.89 525.00	640.00 660.00	655.00 655.00 20.00	670.00	655.00 270.95	171,02	424.00 520.00	545.00 545.00	540.00 540.00 714.56
₹	RES NO.4 CASE	213.00 213.00 213.00 213.00	0.07	000	0.07	213.00 213.00 213.00	213.00	0.07	213.00	213.00	0.03 0.03	213.00	213.00	213.00	213.00	213.00	213.00	213.00	0.07	213.00	213.00	213.00 0.03
4.	RES NO.4 LEVEL	2.58 2.37 2.10	888	88	88:	.2.5. 4.4.	1.00	388	2.58	2.32	, s.		2.53	98! 88!	2:27	7.79 7.10 7.10 7.10	2.44	 868	 88:	1.00 2.06	2.67	3.33
4,	RES NO.4 EOP ELEV	1397.08 1387.00 1378.62 1338.02	1270.23	1270.23	1270.23	1389.04 1388.08 1387.95	1270.23	1270.23	1389.41	1374.01	1424.31	1408.26	1403.64	1424.51	1392.29	1339.08	1385.90	1321.27	1270.23	1270.23	1405.70	1421.65 1424.31
4	RES NO.4 EOP STOR	42194,46 33437,53 27508,73 8838,97	300.00 300.00 300.00	300	300.00	34201.24	20803.23	300.00	35140.47	24250.58	71500.00	52673.01	48336.00	71438.35	37705.95	9120.67	32659.71 26255.20	4876.25 300.00	300.00	500.00 6443.54	50267.09	40184.40 68306.93 71500.00
=OC NO=	PER DY MO YR DW	40°07 2222		121	122 121	 545	222 9 ^ 0	222	225	122	188 • ~ •	1218	1218 1218 1218	121S 2-0-0	122	277	104 200	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	10 34	72-	755 755 755 755

RUN14 (CONTINUED)

213.	C.P. 213 FLOW REB	2484,900,000,000,000,000,000,000,000,000,00	48515.38	2484.80	0.00	101.00	404.29	35.00
213.	C.P. 213 DIVERSIO	2555.0000000000000000000000000000000000	19066.82	270.00	43.01	70.00	158.89	107.00
213.	C.P. 213 DIV REQU	25000000000000000000000000000000000000	20095.00	270.00	100.00	70.00	167.46	57.00
213.	C.P. 213 DEQ-SHOR	00000000000000000000000000000000000000	8201.25	400.00	0.00	35.00	68.34	1.00
213.	C.P. 213 MIN DESI		48000.00	400.00	400.00	1.00	400.00	1.00
403	RES NO.4 OUTFLOW	2655.00 2655.0	67582.21	2604.80	43.01	101.00	563,19	107.00
4	RES NO.4 CASE	2 222 22 22 22 22 22 22 22 22 22 22 22	14273.91	213.00	0.03	3.00	118.95	1.00
4.	RES NO.4 LEVEL	8884444666888898944488844188	257.04	3.00	1.00	1.00	2.14	34.00
€*	RES NO.4 EDP ELEV	1424 1424 1424 1426 1386 1386 1386 1386 1396 1270 1270 1270 1270 1270 1270 1270 1270	162810.35	1424.31	1270.23	1.00	1356.75	14.00
4.	RES NO.4 EOP STOR	71500.00 63744.43 71500.00 53536.05 33090.36 47241.64 47241.64 47221.26 71500.00 71500.00 70	3662980.86	71500.00	300.00	2.00	30524.84	35.00
COC NO=	PER DY MO YR DW	222 242 252 252 253 253 253 253 253 25	25 = MUS	MAX =	" ZE	PMAX=	AV6 =	PMIN=

213. 213.040	C.P. 213 FLOW REG	1127-64
213. 213.060	C.P. 213 DEG-SHOR	23 4 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
213. 213.050	C.P. 213 MIN DESI	
213. 213.030	C.P. 213 DIVERSIO	22222222222222222222222222222222222222
1 4.030	RES NO.4 DIVERSIO	44444444444444444444444444444444444444
FLOOD= 4.100	RES NO.4 Outflow	1106.78 386.85 555.57 1251.60 1251.60 1251.60 1251.60 1251.60 1251.60 1251.60 1251.60 1251.60 1251.60 1251.00
PERIOD 4.120	RES NO.4 Case	
SUMMARY BY 4.130	RES NO.4 Level	88888888888888888888888888888888888888
4.220	RES NO.4 EOP ELEV	123000000000000000000000000000000000000
4.110	RES NO.4 EDP STOR	71500.00 71500.00
CODE=	PER DY MO YR DW	24.6 38 373 373 373 373 373 373 373 373 373

213.	C.P. 213 FLOW REG	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	443.60 443.60 11443.60 11443.60 1146.00 1146.00 1146.00 1146.00 1146.00 1146.00 1146.00 1166.00 1166.00 1167.00 116
213.	C.P. 213 DED-SHOR	287 287 287 287 287 287 287 287 287 287	888888888888888888888888888888888888888
213.	C.P. 213 MIN DESI		
213.	C.P. 213 DIVERSIO	11.22.25.25.25.25.25.25.25.25.25.25.25.25.	22222222222222222222222222222222222222
4	RES NO.4 DIVERSIO	89.01 102.01 102.01 80.88 80.70 100.00 100.76 100.76 100.76 100.76 100.76 100.76	1014 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
₹	RES NO.4 OUTFLOW	385.20 379.38 379.38 379.20 379.27 379.27 379.23 379.23 379.23	399.47 380.29 381.25 381.25 381.25 381.25 377.14 377.14 377.14 377.14 380.92 377.14 380.92 377.14 380.92 377.14 380.92 377.14 380.92 377.14 380.92 377.14 380.92 377.14 380.92
4.	RES NO.4 CASE	\$6688888888888888888888888888888888888	00000000000000000000000000000000000000
*	RES NO.4 LEVEL	00000000000000000000000000000000000000	44444444444444444444444444444444444444
**	RES NO.4 EOP ELEV	1418.08 1418.08 1408.70 1359.98 1300.00 1359.75 1353.10 1410.76 1410.76 1410.76 1410.76 1410.76 1410.76	1315.15 1408.15 1408.15 1401.17 1401.1
4	RES NO.4 EOP STOR	64012,66 55715,87 557013,87 36338,76 16705,17 2000,00 767,52 2000,00 6641,80 7530,28 13830,34 13830,34 13830,34 25535,91 25535,91	4048.79 52920.64 46341.10 46341.55 49733.97 71500.00 62732.78 46482.80 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00
LOC NO=	PER DY MO YR DW	40408000000000000000000000000000000000	96666666666666666666666666666666666666

RUN15 (CONTINUED)

213.	C.P. 213 FLOW REG	457:87	400.00	400.00	400.00 400.00	2806.98	400.00	400.00	100.00	120.31	400.00	400.00	1194.10	705.87 400.00	400.00 400.00	400.00 400.00	59082.29	2806.98	100.00	101.00	492.35	37.00
213.	C.P. 213 DEQ-SHOR	00.0	888	000	。。 88	888	388	383	300.00	279.69 228.06	0.0	888	38	88	88	 88	2791.12	300.00	0.00	37.00	23.26	1.00
213.	C.P. 213 MIN DESI	400.00 400.00	400.00	400.00	400.00 400.00	400.00	400.00	400.00	400.00 400.00	400.00 400.00	400,00	400.00	400.00	400.00 400.00	400.00 400.00	400.00 400.00	48000.00	400.00	400.00	1.00	400.00	1.00
213.	C.P. 213 DIVERSIO	-22.86 -22.86 -21.81	-22.86 -20.42	-16.68	-18.58 -21.14	-22.49	-22.86	-19.12	-14.25	88	95	-18.43	-22.86	-22.86 -22.86	-21.57 -19.27	-17.20	-1971.76	0.00	-22.86	37.00	-16.43	102.00
4	RES ND.4 DIVERSIO	114.31	114.31	83.40 60.30	92.90 105.68	112.44	14.	95.62	19.45	88	00.00	92.15	114,31	114.31	107.83 96.35	86.02 66.73	9858.78	114.31	0.00	102.00	82.16	37.00
4	RES NO.4 OUTFLOW	435.01 377.14 962.58	377.14	383,32	381.42 378.86	2786.09	377.14	380.88	96.11 96.11	120.31	400.00	381.57	1171.24	683.01 377.14	378.43 380.73	382.80	57110.53	2786.09	96.11	101.00	475.92	107.00
*	RES NO.4 CASE	213.00	213.00	213.00 213.00	213.00 213.00	213.00	213.00	213.00	213.00	213.00 213.00	213.00	213.00	383	213.00	213.00 213.00	213.00	18319.02	213.00	0.03	10.00	152.66	1.00
	RES NO.4 Level	42.4 64.0	2.53	2.28 2.66	2.85 2.97	 888	25.83	2.39	31.31	88 88	2.14	2.43	388 171	2.89 2.89	2.70 2.56	5.32 5.60	311,74	3.00	1,13	1.00	2.60	37.00
4.	RES NO.4 EOP ELEV	1424.31 1419.06 1424.31	1412.10	1370.30 1402.90	1415.68	1424.31	1417.71	1381.25	1283.50	1300.00 1300.00	1348,30	1423.71	1424.31	1424.31	1406.35 1396.02	1376.73	166807.02	1424.31	1277.97	1.00	1390.06	37.00
4	RES NO.4 EDP STOR	71500.00 65193.09 71500.00	56829.99	21620.41 47642.85	61121.84 69258.35	29641.78 71500.00	63566.69	29367.81	828.61	2000.00 2000.00	11568.99	70783.86	71500.00	71500,00 63716,90	50880.41 41202.33	26174.60 44001.72	5434295,34	71500.00	521.71	101.00	45285.79	37.00
=ON OCT	PER DY MO YR DW	91 1 4 35 1 92 1 5 35 1 93 1 6 35 1	1 7 35	200 200 200 200 200 200 200 200 200 200	12 12 12 12 12 12 12 12 12 12 12 12 12 1	588 -2-	. 4 R	9797	8 78 i	1 10 38	2 2 2 1	1 27	100 100 100	 	1 6 37	 	S = MOS	max ==	# Z	PMAX=	AV6 =	PHIN=

213. 213.040	C.P. 213 FLOW REG	444527444
4.060	RES NO.4 DEG-SHOR	2777.480000000000000000000000000000000000
4. 4.050	RES NO.4 MIN DESI	\$
213. 213.030	C.P. 213 DIVERSIO	111.1.4.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
1 4.030	RES NO.4 DIVERSIO	821.157.75 965.33.71.157.75 965.33.75.88 97.1.157.75 97.1.157 97.1
FLOOD= 4.100	RES NO.4 Dutflow	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
22	RES NO.4 CASE	000000000000000000000000000000000000000
SUMMARY BY PERIOD 4. 4.	RES NO.4 LEVEL	\$2888882\$2388883288884\$288882\$28888888888
4. 220	RES NO.4 EDP ELEV	1424, 424, 424, 424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 4424, 431, 431, 4324, 4324, 43
4. 4.110	RES NO.4 EOP STOR	71500.00 71500.00
LOC NO= CODE=	PER DY MO YR DW	21

213.	C.P. 213 FLOW REG	500 000 000 000 000 000 000 000 000 000	4/5.51
₹.	RES NO.4 DEG-SHOR	888888888888888888888888888888888888888	3.6
4.	RES NO.4 MIN DESI	64444444444444444444444444444444444444	400.00
213.	C.P. 213 DIVERSIO	0.000000000000000000000000000000000000	10.0/-
*	RES NO.4 DIVERSIO	24.25.0000000000000000000000000000000000	200.00
+	RES NO.4 OUTFLOW	44444444444444444444444444444444444444	400,00
4	RES ND.4 CASE	000000000000000000000000000000000000000	30.0
<-	RES NO.4 LEVEL	00000000000000000000000000000000000000	>>
4	RES NO.4 EOP ELEV	1422. 65 1423. 65 1422. 65 1422. 65 1537. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	101271
	RES NO.4 EOP STOR	70753.35 70753.35 70006.95 70006.95 73084.88 73382.06 8702.18 8702.19 8702.19 8702.19 71500.00	
=ON JOT	PER DY MO YR DW	54444442555555555555555555555555555555	3

213.	C.P. 213 FLOW REG	429.86 400.00	400.00	90.00	439.21	400.00	484,71	400.00 400.00	400.00	400.00	142.95	400.00	418.62	456.40 577.11	479.46	400.00	400.00	51705.97	2262.28	102.29	101.00	430.88	38.00
4	RES NO.4 DEG-SHOR	888	888	888	888	388	38	88	000	8.0	228.06 228.06	86	883	88	°°°	88	88	1725.45	297.71	0.00	38.00	14.38	1.00
*	RES NO.4 MIN DESI	4400.00 400.00	400,00	00.00	900	40.00	400.00	400.00 400.00	400.00 400.00	400.00	400.00	400.00	400.00	400.00 400.00	400.00 400.00	400.00	400.00	48000.00	400.00	400.00	1.00	400.00	1.00
213.	C.P. 213 DIVERSIO	-29.86 0.00	88	888	-39.21	200	-170.72	88 88	88	88	38	88	-18.62	-36.40	-79.46 0.00	000	88	-3743.06	0.00	-194.31	10.00	-31.19	9.00
4.	RES NO.4 DIVERSIO	149.32 0.00 766.18	88	000	196.06	00.0	423.55	88	88	80.0	88	8 6 6 6	93.08	885,55	397.32 0.00	000	999	18715.29	971.55	0.00	9.00	155.96	10.00
.	RES NO.4 QUTFLOW	400.00 400.00 400.00	400 000 000 000	400	96.00	400.00	400.00	400.00	400.00 00.00	400.00	171.94	400,00 400,00	400.00	\$6. 86. 88.	400.00 400.00	400.00 400.00	400.00 400.00	47962.91	2071.36	102.29	101.00	399.69	38.00
*	RES NO.4 CASE	0.00	88	96	0.00	000	900	38	88	000	0.00	88	0.03	0.0		88	88 00	1.95	0.09	0.00	37.00	0.02	10.00
4.	RES NO.4 LEVEL	3.00 3.99	2.87	2.49		25.5	383 500 500 500 500 500 500 500 500 500 50	2.85	2.61 2.32	258	383	2.14	88	38: 	3.00 2.97	2.86 2.79	2.63	329.79	3.00	2.00	1.00	2.75	37.00
4	RES NO.4 EDP ELEV	1424.31	1416.78	1390,73	1424.31	1420.92	1424.31	1415.53	1399.73	1301.30	1300.00	1348.30	1424.31	1424.31	1424.31 1422.51	1416.11 1412.01	1401.06	168291.95	1424.31	1300.00	1.00	1402.43	37.00
₹	RES NO.4 EOP STOR	71500.00 70817.84 71500.00	62454.81 49393.21	36241.12	71500.00	67424.34	71500.00	60951.50	446/7.76 24114.33	2175.54	2000.00	11568.99 48850.74	71500.00	71500.00	71500.00 69341.65	61642.09 56711.52	45922.93 66926.41	6480173.11	71500.00	2000,00	8.00	54001.44	39.00
FOC NO=	PER DY MO YR DW	91 0 4 35 1 92 0 5 35 1 93 0 6 35 1	00 84 88	0 0 0 0 50 53	223	22	200 200		98 4 28 28	28 00 00	38; 20;	10 0 11 56 11 0 12 36	12 0 137	14 0 37	0 0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	17 0 6 37 18 0 7 37	00	79 = WNS	MAX =	" NIW	PMAX=	AV6 =	-NIN-

213. 213.040	C.P. 213 FLOW REB	1184
213.	C.P. 213 DEG-SHOR	88338888888888888888888888888888888888
213. 213.030	C.P. 213 DIVERSIO	22242242424242424242424242424242424242
4. 030	RES NO.4 DIVERSIO	60000000000000000000000000000000000000
1 4.100	RES NO.4 OUTFLOW	11061. 368.005 1112.7.79 1228.388 1228.389 1228.389 1228.389 1228.389 1238.
FL00D= 4.120	RES NO.4 CASE	88888888888888888888888888888888888888
PERIOD 4. 4.130	RES ND.4 Level	21:08510000000000000000000000000000000000
SUMMARY BY 4. 4.220	RES NO.4 EDP ELEV	1424. 1424. 1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1424.31 1406.00 1300.00 1300.00 1360.00 1360.32 1360.33 13
4. 4.110	RES NO.4 EDP STOR	71500.00 71500.
4. 4.240	RES NO.4 LOCAL IN	1222. 4478.00 1365.00
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	MO YR	01121-02470-0201121-02470-001121-02470-0001121-02 22222222222222222222222222222222222
	숦	क्षा कर्म कर्म भा गार्च कर्म कर्म कर्म कर्म कर्म कर्म कर्म कर्म
CODE=	PER	

213.	C.P. 213 FLOW RE6	0.000 0.000
213.	C.P. 213 DEQ-SHOR	00004040000000000000000000000000000000
213.	C.P. 213 DIVERSIO	ਖ਼ਖ਼ਖ਼ਖ਼ੑ੶ੑ੶ੑ੶ੑਸ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ੑਖ਼੶ੑਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼ਖ਼
4	RES NO.4 DIVERSIO	0.000000000000000000000000000000000000
4 ;	RES NO.4 OUTFLOW	10458280 1040452 10
₹.	RES ND. 4 Case	22222222222222222222222222222222222222
*	RES NO.4 LEVEL	444495988888888888888888888888888888888
4	RES NO.4 EOP ELEV	1403. 35 1359. 55 1359. 55 135
4.	RES NO.4 EOP STOR	48066.89 20000.00 200000.00 200000.00 20000.00 20000.00 20000.00 20000.00 20000.00 20000.00 200000.00 200000.00 200000.00 20000000.00 2000000.00 20000000000
4	RES NO.4 LOCAL IN	8825241 10252610 1025261
FOC NO=	PER DY NO YR DW	5.45.45.46.00.00.00.00.00.00.00.00.00.00.00.00.00

RUN17 (CONTINUED)

213.	C.P. 213 FLOW REG	2813.32 2813.32 2813.90 2813.9	55294.19	2613.40	82.46	101.00	460.78	49.00
213.	C.P. 213 DEQ-SHOR	2787 2787 2787 2787 2787 2787 2787 2787	3838,70	317.54	0.00	49.00	31.99	1.00
213.	C.P. 213 DIVERSIO	21.22.21.22.22.22.22.22.22.22.22.22.22.2	-2950.08	0.00	-32.00	35.00	-24.58	1.00
41.	RES NO.4 DIVERSIO	1000 1000 1000 1000 1000 1000 1000 100	14750.40	160.00	0.00	1.00	122.92	35.00
4	RES NO.4 OUTFLOW	2889.32 3889.32	52344.11	2581.40	82.46	101.00	436.20	49.00
4	RES NO.4 CASE	\$6000000000000000000000000000000000000	20235.79	213.00	0.03	3.00	168.63	1.00
*	RES ND.4 LEVEL		300.75	3.00	1.00	1.00	2.51	49.00
4.	RES NO.4 EOP ELEV	1474. 14174. 14174. 14174. 14171. 14171. 14174. 141	165752.86	1424.31	1270.23	1.00	1381.27	49.00
4	RES NO.4 EOP STOR	71500.00 57494.75 71500.00 57494.75 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00 71500.00		71500.00	300.00	2.00	39849.05	49.00
4.	RES NO.4 LOCAL IN	245.00 1177.00 1177.00 1177.00 1177.00 1177.00 126.	.00.4	3094.00	43.00	101.00	554.08	107.00
TOC NO=	PER DY MO YR DW	254 252 252 253 253 253 253 253 253 253 253	Wis	max =	" NIW	PMAX=	AV6 =	-NIK-

213. 213.040	C.P. 213 FLOW REG	1276. 1276. 1276. 13
4.060	RES ND.4 DEG-SHOR	888888888888888888888888888888888888888
8 4.050	RES NO.4 MIN DESI	
FLOOD= 4.100	RES NO.4 OUTFLOW	12720 12720 12720 13060
PERIOD FI 4.090	RES NO.4 INFLOW	12622 4477.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1385.00 1580.00 1580.00 1580.00 1680.
SUMMARY BY 4. 4.120	RES NO.4 CASE	699999999999999999999999999999999999999
4.130	RES NO.4 LEVEL	88888888888888888888888888888888888888
4.110	RES NO.4 EDP STOR	643928.69 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88 653671.88
	書	चर्च कर्म कर्म कर्म कर्म कर्म कर्म कर्म कर्म
	چ	711700000000000000000000000000000000000
	2	0111-014454/800112-016454/80012-016454/80012-016
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CODE= LOC NO=	PER	446389989989999999999999999999999999944 44699999999

213.	C.P. 213 FLOW REG	00.004 00.004 00.000 00.000 00.000	00000000000000000000000000000000000000	600.000 600.000 600.000 600.000 600.000	400.00 400.00 400.00 807.23	662.39 400.00 400.00 1238.20 523.94	400.00 400.00 400.00 1002.07 557.39	400.00 400.00 400.00 400.00 1059.94 573.13
4	RES NO.4 DED-SHOR	8888888	8888888	888888	888888	888888	88888888	888888888
4	RES NO.4 MIN DESI	000000	6444444 6000000000000000000000000000000	00000000000000000000000000000000000000	24444 20000 800000	60000000000000000000000000000000000000	344444 36666666	4444444 000000000000000000000000000000
4	RES NO.4 OUTFLOW	000000000000000000000000000000000000000	444444 0000000000000000000000000000000	00000000000000000000000000000000000000	64444 600.00 600.00 600.00 600.00	662.39 400.00 400.00 1238.21 523.94	5572.08 5572.08 5572.08 5572.08 5572.08	400.00 400.00 400.00 400.00 573.13 400.00
4	RES NO.4 INFLOM	804.00 367.00 420.00 145.00	1133.00 530.00 1106.00	276.00 130.00 77.00 429.00	438.00 526.00 1224.00	655.00 212.00 1032.00 1237.00	11479.00 172.00 1739.00 1739.00 1739.00	171.00 171.00 171.00 424.00 620.00 1219.00 354.00
4.	RES NO.4 CASE	8888888	888888	888888	88888		99999999999999999999999999999999999999	88888888
₹.	RES NO.4 LEVEL	222222	22.22.22 887.288 887.288	22228888888888888888888888888888888888	882888 855555	8888888 888888888	88888888888888888888888888888888888888	88888843 MMMDDDDDD
4	RES NO.4 EOP STOR	583042.99 581076.30 582309.47 570441.96 554801.10 535400.93	506544.03 506544.03 506544.93 514062.17 557608.98 564142.71	571144,40 563802,73 547248,44 527415,08 529139,57 578592,99	578898.84 581516.13 589460.73 617952.24 643928.69	643928.69 640826.34 629702.92 643928.69 643928.69	6464512.96 6464512.96 643928.69 631702.72 643928.69 6438304.73	626109,21 612115,34 619126,57 620551,45 6335991,03 643928,69 641391,26
	7					عمو شمار شمار شمار شمار شمار شمار	سا جسار جسما جسما جسما جسما جسما) and and and and and and and and
	% 1	ZZZZZZ	22222	222222	22222	nannana	3222222	*********
	£		3-2-2v4				-d-cmar S-d-cmar	
	2							
FOC NO=	PER	444444 444444	NANNANA	50 50 60 60 61	66 66 652 654 653	7377 727 727 727 727	24.25.25 4.25.25 5.45.	88888888888888888888888888888888888888

213.	C.P. 213 FLOW REG	1003.39 769.08 552.39	400.00	400.00	400.00	400.00	600.00	400.00	3030.17	400.00	400.00	80.00	400.00	400.00	400.00	400,00	400.00	400.00	1171.39	400.34	400.00	400.00	400.00 400.00	66766.96	3030.17	400.00	101.00	556.39	10.00
4	RES NO.4 DEQ-SHOR	000	88	88	86	38	88	88	88	38	8.0	88	38	88	88	38	88	0.0	8.0	88	88	8	88	0.00	0.00	0.00	1.00	0.00	1.00
4.	RES NO.4 MIN DESI	400.00 400.00	400.08 200.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	90.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00 400.00	48000.00	400.00	400.00	1.00	400.00	1.00
4	RES NO.4 OUTFLOW	1003.39 769.08 552.39	400.00	400.00	400.00	400.00	00.009	400.00	3030.17	400.00	400.00	60.00	400.00	400.00	80.8	400.00	60.00	400.00	1171.39	400,09	400.00	60.00	400.00 400.00	66766.96	3030.17	400.00	101.00	556.39	10.00
4	RES NO.4 INFLOW	1044.00 763.00 545.00	388.00	252.00	187.00	872.00	90.769	331.00	3094.00	354.00	268.00	126.00	43.00	140.00	172.00	100.00	859.00	00.629	1282.00	364.00	270.00	319.00	753.00	66490.00	3094.00	43.00	101.00	554.08	107.00
4	RES NO.4 CASE	000	0.00	88	88	88	0.0	88	o. 25	38	0.0	88	88	0.0	88	38	88.	0.00	e. S:	38	0.0	8:	88	1.08	0.03	0.00	1.00	0.01	10.00
-	RES NO.4 LEVEL	888 888	86 86 86	2.99	2.97	2.99	88 88	2.99	88	38.	2.98	2.96	2.89	2.87	2.83	2.00	2.%	2.99	88	98	2.98	2.0	2.99	353.79	3.00	2.78	4.00	2.95	50.00
4.	RES NO.4 EOP STOR	643928.69 643928.69 643928.69	643286.42 643928.69	634925.68	621896.66	637679.63	643928.69	639976.02	643928.69	641629.18	633605.55	61/361.41	574941.28	559467.94	545404.53	597543, 71	621002.35	636760.06	643928.69	641810.38	634139.12	629252.06	639498.24	=73274909.54	643928.69	499862.25	4.00	610624.25	20.00
	YR DW	222	2 2 2		18 	312	12 K	 8%	 %2	 8:8	38	 97	328	36	 %:2	 9%	 21:	- 2	 	 36	27	 	22	SUM =7	#AX =	» »	PMAX=	AV6 =	PMIN=
	웊	ころ4	ro ~0		000	`=	===	-	~) 	10 -	٥٢	· 00	•	2:	2:	! -	C)	س > حر	* 10	-0	~ "	-O C						
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#	뚔	8862	32	2	22	25	88	:8:	35	35	25	22	25	8	5	3=	2	~	===	22		<u> </u>	120						
201	Lib.									,																			
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RUN19 - SUMMARY OUTPUT

			ANNUAL DIV 4	ဝင်ဝင်	ö
			ANNUAL ANNUAL REQ 0 DIV 4 4	989	100
				477. 329. 278.	278.
			DRAM AV REL LOC=	482. 326. 270.	270.
		0.05	DRAW	8.8%	7.
		0 00.9	DRAW DRAW DRAW ANNUAL ST PER LENGTH AV REL DES B LOC= 4	1930.06 1930.06 1930.07	1930.07
	RUN 19	2.00	8AT10 ST6/8	71500. 0.1731 71500. 0.1731 71500. 0.1731	71500. 0.1731
280. 286.	# # F ER100S)		AVG TOP.CON RATIO SPILL STOR. STG/Q	71500. 71500. 71500.	71500.
	SYSTEM RED FLO (120 P	0	AV6 SPILL	48. 89. 123.	277.
257.	SUPPLY ILY DESI RECORD	0	AV6 REL	518. 414. 397.	556.
245. 321.	SINGLE RESERVOIR WATER SUPPLY SYSTEM * OPTIMIZATION OF MONTHLY DESIRED FLOW * MONTHLY FLOW 1927-1937 RECORD (120 PERIODS)	0.00 0.00 0.00 0.00	AVG INF.	377. 377. 377.	554.
139. 233. 103. 315. 0.050 0.004	SLE RESERV 7 IMIZATIO IHLY FLOW	0.00	ROUTING ST PER	1929.10 1929.10 1929.10	1927.10
ON 239. 303. 0.01	NO.N	00.00	ERROR NUM. (STG) PERIODS	27 27 27	120
TIMIZATION T. VALUES 7. 239. 2. 303.		4.20	ERROR (STG)	1 2.3803-165430. 2 0.3568 -24798. 3 0.0041 -283.	-283.
00 BY 00 00 T 00 25 1100=	122	12	ERROR RATIO	2.3803- 0.3568 0.0041	1 0.0041
ERMINE TYPE- 2 AL PER			TRIAL		
YIELD DETERMINED BY OPTIMIZA RES-LOC TYPE-OPT OPT. VAL 4 2 257. NEW CRITICAL PERIOD= -33.04	*OPSUM		LOCATION	SINGLE RES SINGLE RES SINGLE RES	SINGLE RES

0.000		
213. 213.040	C.P. 213 FLOW REB	1221.09 735.74 735.74 735.74 735.74 1308.55 1003.32 1308.65 1308.65 1308.65 1308.65 1233.55 11,32 1233.55 11,32 1233.55 11,32 1233.55 11,32 1233.55 11,32 1233.55 11,32 1233.55 11,32 1233.55 1233.17 1233.55 1335 1335 1335 1335 1335 1335 1335
4.080	RES NO.4 REQ-SHOR	888888888888888888888888888888888888888
4.070	RES NO.4 MIN REQU	888888888888888888888888888888888888888
4. 4. 060	RES NO.4 DEQ-SHOR	888888888888888888888888888888888888888
FLOOD= 4.050	RES NO.4 MIN DESI	2335. 2335.
PERIOD FI 4.100	RES NO.4 OUTFLOW	1221. 735.116 735.116 735.116 735.116 735.116 736.95 73
SUMMARY BY 4.	RES NO.4 INFLOW	1222. 497.90 1345.90 1345.90 1365.90 1365.90 1365.90 1230.90 1
4.120	RES NO.4 CASE	
4. 4.110	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00
CODE= COC NO=	PER DY MO YR DW	24.638838383838382822222222222222222222222

213.	C.P. 213 FLOW REG	241.45 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.55.56 282.
**	RES NO.4 REQ-SHOR	888888888888888888888888888888888888888
4.	RES NO.4 MIN REQU	888888888888888888888888888888888888888
4.	RES ND.4 DED-SHOR	888888888888888888888888888888888888888
.	RES NO.4 MIN DESI	291. 291. 291. 291. 291. 291. 291. 291.
4	RES NO.4 DUTFLOW	2641. 255. 255. 255. 255. 255. 255. 255. 25
4	RES NO.4 INFLOW	245.00 2
4	RES NO.4 Case	88888888888888888888888888888888888888
*	RES NO.4 EDP STOR	571500.00 571500.00 574474.23 5747500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00 5771500.00
	3	न न न न न न न न न न न न न न न न न न न
	₩	88885555555555555555555555555555555555
	윤	40.40.80.010.10.40.40.80.010.10.40.40.40.40.40.40.40.40.40.40.40.40.40
=ON JOT	PER DY	84646468888888888888888888888888888888

213.	C.P. 213 FLOW REG	549.32 326.84 320.84 320.84 320.84 323.33 323.33 323.33 323.34 323.33 325.65 326.67 326.67 326.67 326.67 326.67 326.67 326.67 326.84 32	66662.72	3096.88	233,34	101.00	555.52	39.00
4.	RES NO.4 REQ-SHOR	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
4.	RES NO.4 MIN REDU		12000.00	100.00	100.00	1.00	100.00	1.00
4	RES NO.4 Ded-shor	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	00.00	1.00
ਪ	RES NO.4 MIN DESI	291.68 205.168 205.168 205.188 205.187 205.187 205.197	33367.71	320.84	233,34	10.00	278.06	3.00
4	RES NO.4 OUTFLOW	249.32 320.18 320.18 320.18 323.33 323.34 323.35 32	66662.72	3096.88	233,34	101.00	555.52	39.00
4	RES NO.4 INFLOW	245.00 252.00 1177.00 1872.00 1872.00 177.00 252.00 252.00 172.00 172.00 172.00 172.00 173.00 173.00 173.00 173.00 173.00 173.00 173.00 173.00 173.00 173.00 173.00	66490.00	3094.00	43.00	101.00	554.08	107.00
4	RES NO.4 CASE	000000000000000000000000000000000000000	2.16	0.03	00.00	1.00	0.02	11.00
4.	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00	=67511614.83	571500.00	501717.17	1.00	562596.79	40.00
FOC NO=	PER DY MO YR DW	927 928 929 929 930 930 930 930 930 930 930 93	49= WINS	m xam	" NIW	PMAX=	AV6 =	PHIN

RUNZO - SUMMARY DUTPUT

			AVG TOP.CON RATIO DRAW DRAW ANNUAL ANNUAL SPILL STOR. STG/G ST PER LENGTH AV REL DES G REQ G LOC= 4 4	371. 100. 266. 100.	259. 100.
			M ANNU		
			AV REI	385. 276.	276.
		0.02	W DRAW	6 8. 7 7.	7 7.
	RUN 20	9.00	DRA ST PER	1930.06 1930.07	1930.0
		8.	RATIO ST6/Q	0.1731	0.1731
266. 230.	ID FLOWS	00 2	STOR.	71500. 0.1731 1 71500. 0.1731	71500, 0.1731 1930,07
222	SYSTEM S DESIRE (120 PE	00	AV6 T	75.	308.
258.	SUPPLY S Varying Record	0.0	AVG	434.	556.
266. 244.	SINGLE RESERVOIR WATER SUPPLY SYSTEM *OPTIMIZATION OF PERIOD VARYING DESIRED FLOWS* MONTHLY FLOW 1927-1937 RECORD (120 PERIODS)	0.00 0.00 0.00 0.00 0.00 2.00	AVG INF.	377.	554.
3. 0.039	ESERVOIR Ation of Flow 192	0.0	EB	22	2.
273.	VELE RI PTIMIZA VTHLY		ROUT	1929.10 1929.10	120 1927.10
10N 15S 251.	10 × 2	0.00	ERROR NUM, ROUTING (STG) PERIODS ST PER	27	120
PT OPTINIZATION PT OPT, VALUES 287, 280 258, 258, 258, 006 -33,046		J7 4.20	ERROR (STB)	0.7691 -53450. 0.0392 -2725.	0392 -2725.
	122	11	ERROR Ratio	0.7691	0.0392
ERMINE TYPE- 2 AL PER			TRIAL	7	
YIELD DETERMINED BY OPTI RES-LOC TYPE-OPT OPT. 4 2 287. NEW CRITICAL PERIOD= -3	*OPSUM		LOCATION	SINGLE RES	SINGLE RES

0000		
213. 213.040	C.P. 213 FLOW REG	12221 57221.0 57321.1
4. 080	RES NO.4 REQ-SHOR	888888888888888888888888888888888888888
4.070	RES NO.4 MIN REQU	888888888888888888888888888888888888888
3 4.060	RES NO.4 DEG-SHOR	888888888888888888888888888888888888888
FL000= 4.050	RES NO.4 MIN DESI	24555555555555555555555555555555555555
PERIOD 4.100	RES NO.4 OUTFLOW	2221 2721 2721 2721 2721 2721 2721 2721
SUMMARY BY 4.090	RES NO.4 INFLOW	1222 4468 733.00 1365.00 1
4.120	RES NO.4 CASE	666666666666666666666666666666666666666
4.110	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00
	3	कर्म क्यां कर्म क्यां क्
	#	771788888888888873737373737888888888888
	문 >	011-0046-0-00-010-0046-0-010-0046-0-010-006-006
CODE=	PER DY	

213.	C.P. 213 FLOW REG	252.08 252.08 252.08 252.05 252.05 253.05 25
*	RES NO.4 REQ-SHOR	888888888888888888888888888888888888888
4	RES NO.4 MIN REQU	
4	RES NO.4 DEQ-SHOR	888888888888888888888888888888888888888
*	RES NO.4 MIN DESI	22222222222222222222222222222222222222
4.	RES NO.4 OUTFLOW	2522 2526 2526 2527 2526 2527 2526 2527 2527
₹.	RES NO.4 INFLOW	265.00 275.00
4	RES NO.4 CASE	22222222222222222222222222222222222222
*	RES NO.4 EOP STOR	5571500.00 5571500.00
	3	माने कर्ण कर्ण कर्ण कर्ण कर्ण कर्ण कर्ण कर्ण
	₩ 1	22225255555555555555555555555555555555
	呈	48.47.8001111-0848.47.800111-0848.47.800111-08
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=ON 307	PER	\$464546000000000000000000000000000000000

213.	C.P. 213 FLOW REG	248. 32 252. 94 252. 94 252. 94 252. 94 252. 94 252. 94 253. 33 353. 35 254. 94 255. 94 255. 94 255. 95 256. 94 256. 95 256. 94 256. 95 256. 9	66665.64	3096.88	218.92	101.00	555,55	59.00
4	RES NO.4 REG-SHOR	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
₩.	RES NO.4 MIN REQU		12000.00	100.00	100.00	1.00	100.00	1.00
4	RES NO.4 DEQ-SHOR	888888888888888888888888888888888888888	0.00	0.00	0.00	1.00	0.00	1.00
.	RES NO.4 MIN DESI	22222222222222222222222222222222222222	29740.87	287.11	215.33	1.00	247.84	57.00
4	RES NO.4 DUTFLOW	249.32 259.44 252.64 225.64 225.64 225.64 225.65 3033.51 268.32 258.32 258.32 258.32 258.32 258.32 258.33 2	66665.64	3096.88	218.92	101.00	555.55	59.00
4.	RES NO.4 INFLOW	245.00 1177.00 1872.00 1872.00 1872.00 177.00 254.00 156.0	66490.00	3094.00	43.00	101.00	554.08	107.00
	RES NO.4 CASE	000000000000000000000000000000000000000	2.46	0.03	00.00	1.00	0.02	12.00
4	RES NO.4 EDP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00	=67837021.32	571500.00	499274.66	70.00	565308.51	40.00
LOC NO=	PER DY NO YR DW	92242999999999999999999999999999999999	29 = W1S	WAX	# NIW	PMAX=	AV6 =	PEIN

RUNZ1 - SUMMARY CUTPUT

			NUAL DIV	•	•
			703 <u>8</u>		•
			ANNUA REQ	200.	200.
			ANNUAL DES Q	400.	400.
			DRAW AV REL LOC=	331.	331.
		0.05	DRAW	8.	7.
		0 00.9	AVG TOP.CON RATIO DRAW DRAW DRAW ANNUAL ANNUAL ANNUAL SPILL STOR. STG/0 ST PER LENGTH AV REL DES 0 REQ 0 DIV LOC= 4 4 4	71500. 0.1774 1930.06 18.	71500. 0.1774 1936.04 7.
			RAT10 ST6/0	0.1774	0.1774
	UN 21 ERIODS)	0.00 2.00	TOP. CON STOR.	71500.	
	SYSTEM HS* R (120 P		AV6 SPILL	63.	164.
	R SUPPLY TRED FLO 7 RECORD	0	AV6 REL	417.	556.
24	OIR WATE Of Redu 1927-193	0 00.	AV6 INF.	377.	354.
0.024	SINGLE RESERVOIR WATER SUPPLY SYSTEM *OPTIMIZATION OF REQUIRED FLOWS* RUN 21 MONTHLY FLOW 1927-1937 RECORD (120 PERIODS)	0.00 0.00 0.00 0.00 0.00	OUTING ST PER	27 1929.10	120 1927.10
GN 5 0.050	SING #OPTI	00.00	ERROR NUM, ROUTING (STG) PERIODS ST PER	27	120
TIMIZATI T. VALUE 0. 102.115		4.30	ERROR (STG)	1700.	1700.
ED BY OP -0PT OP 20 RIOD= -	121	11	ERROR	1 0.0239	1 0.0239
HANN TYPE AL PEIS			TRIAL		
YIELD DETERMINED BY OPTIMIZATION RES-LOC TYPE-OPT OPT. VALUES 4 3 200. NEW CRITICAL PERIOD= -102.115	*OPSUM		LOCATION	SINGLE RES	SINGLE RES
				106	

213. 213.040	213 RE6	erakanyageeeeeeeeeeeeeeeeeeeeeee	8
213	 도	12721 138881 13653 13653 13653 13653 12721 1273 1273 1273 1273 1273 1273 12	400
4.080	RES NO.4 REQ-SHOR	00000000000000000000000000000000000000	0.0
4. 4.070	RES NO.4 MIN REQU		200.00
4.060	RES NO.4 DEG-SHOR	2277 1 # 000 000 000 000 000 000 000 000 000	0.00
2 4.050	RES NO.4 MIN DESI		400.00
FLOOD= 4.100	RES NO.4 OUTFLOW	12721 12721	400.00
PERIOD 4.090	RES NO.4 INFLOW	12627 12	8/8.00
SUMMARY BY 4.120	RES ND.4 CASE	26222222222222222222222222222222222222	20.00
4.130	RES NO.4 LEVEL	, 1999999999999999999999999999999999999	40.7
4.110	RES NO.4 EOP STOR	5571500.00 5571500.00	•
	3	ا عما جما جما جما جما جما جما جما جما جما ج	
	. X	77-77-77-77-77-77-77-77-77-77-77-77-77-	? ?
	DY MO		
CODE= CODE=	떒		7.

4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4	200.00 200.00 200.00
_	588 5
Q ** 0000000000000000000000000000000000	900
CCONTINLED 1.0.00 1.	400.00 400.00
### ##################################	570.16
RES ND. 4. 1875 ND. 6. 1875 ND	354.00
#	0.00
### ##################################	3.00 2.96
4. EDP 5.10.4 EDP 5.10.4 5.70.753.35 5.70.753.35 5.70.753.35 5.70.753.35 5.70.753.35 5.70.753.35 5.70.753.35 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.753.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38 5.70.70.38	571500.00 568839.94
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RUNZ1 (CONTINUED)

213.	C.P. 213 FLOW REG	999.04 766.55 549.32	400.00 1166.18	90.00	600.00 600.00	376.06 617.16	3025.96	400.00	400.00	400.00	171.94	400.00	493.08	681.98 1285.55	400.00	400.00 400.00	400.00	66678.20	3025.96	102.29	101.00	555.65	38.00
₹.	RES NO.4 REG-SHOR	0000	888	88	888	388	888	888	000	. 0. 7. 00.0	28.06	88	28	88	88	88	88	337.62	97.71	0.00	38.00	2.81	1.00
4	RES NO.4 MIN REQU	200.00 200.00 200.00	200.00 200.00	200.00	500.00 500.00 500.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00 200.00	200.00	200.00	200.00 200.00	200.00 200.00	200.00	24000.00	200.00	200.00	1.00	200.00	1.00
4	RES NO.4 DEQ-SHOR	888	888	388	388	388	888	888	88	0.00	228.06	88	88	88	88	88	99 88	1725.45	297.71	0.00	38.00	14.38	1.00
4	RES NO.4 MIN DESI	400.00 400.00	4 4 6 50 6 60 6	400.00	4 00.00	400.00 0.00 0.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	00.00	400.00 00.00	400.00 400.00	400.00 00.00	48000.00	400.00	400.00	1.00	400.00	1.00
4.	RES ND.4 OUTFLOW	999.04 766.55 549.32	1166.18	60.00	400.00 20.00	617.16 400.00	3025.96	400.00	400.00	400.00	171.94	6.00 8.00 8.00 8.00	493.08	1285.55	400.00	400.00 400.00	400.00 400.00	66678.20	3025,96	102.29	101.00	555, 65	38.00
**	RES NO.4 INFLOW	1044.00 763.00 545.00	1177.00	187.00	872.00	331.00	3094.00	354.00	126.00 65.00	43.00	172.00	1004.00	829.00	1282.00	364.00	319.00	224.00 753.00	66490.00	3094.00	43.00	101.00	554.08	107.00
₩.	RES NO.4 CASE	0000	900	888	382	953		88 60	88	000	0.09	88	0.0	000	383	38	99	1.95	0.09	0.00	37.00	0.02	10.00
4	RES NO.4 LEVEL	8888 8888	3.00	2.68	2.5	23.0	88 88	2.96 2.85	2.52	5.8 8.8	2.00	2.67	86 88	888 888 888	2.97	2.79	2.93	329.79	3.00	2.00	86.00	2.75	37.00
₩.	RES NO.4 EOP STOR	571500.00 571500.00 571500.00	571500.00	549393.21	565220.60	571500.00	571500.00	569016.18 560951.50	544677.76	502175.54 502000.00	502000.00	548850.74	571500.00	571500.00	569341.65	556711.52	566926.41	=66480173.10	571500.00	502000.00	86.00	554001.44	37.00
=QN	PER DY NO YR DW	99 1 2 35 1 97 1 4 35 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	388		10.35	1 12 35 1	2 36 1	25 36 4 26 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 6 36 1	1 8 36 1 9 36 1 1	1 28 1	12.38	222	32	122		1 9 37 1	99= NUS	max =	" Z	PMAX=	AV6 =	PHIN
307																	•						

RUNZ2 - SUMMARY OUTPUT

				ANNUAL Red 0	0000	ö
				ANNUAL DES Q	0000	ö
				DRAW AV REL LOC=	106. 114. 117.	118.
			0.05	DRAW LENGTH		7.
			00.9	DRAW DRAW DRAW ST PER LENGTH AV REL LOC-	1930.07 1930.07 1930.07 1930.07	1930.07
		22	2.00	RATID ST6/0	0.1731 0.1731 0.1731 0.1731	71500. 0.1731
.28	44.	YSTEM ION* RUN 22 (120 PERIODS)	00.00	AVG TOP.CON SPILL STOR,	71500. 71500. 71500.	
		SYSTEM ISION* (120 P	0.00	AV6 SPILL	191. 221. 234. 240.	391.
173	144.	SUPPLY LY DIVER RECORD		AVG REL	191. 221. 234. 240.	400.
		INBLE RESERVOIR WATER SUPPLY SYSTEM OPTIMIZATION OF MONTHLY DIVERSION* ONTHLY FLOW 1927-1937 RECORD (120	0.00 0.00	AV6 INF.	159. 197. 213. 221.	398.
180		SLE RESERV IIMIZATION THLY FLOW	0.00	ROUTING ST PER	1929.10 1929.10 1929.10 1929.10	1927.10
173.	0.050	S * S	0.0	ERROR NUM. (STG) PERIODS	222	120
TIMIZATION T. VALUES 17	-33.046		4.40	ERROR (STG)	-24247. -11197. -5691. -3018.	-3018.
OPT OPTIMI OPT OPT. VI	-0012	121	71	ERROR Ratio	0.3489 0.1611 0.0819 0.0434	0.0434
TERMIN TYPE	CAL PEI			TRIAL	ល់លំលំល 	en en
VIELD DETERMINED B RES-LOC TYPE-OPT 4	NEW CRITICAL PERIO	*OPSUM		LOCATION	SINGLE RES SINGLE RES SINGLE RES SINGLE RES	SINGLE RES

RUN22 (CONTINUED)

213. 213.040	C.P. 213 FLOW REG	1110 251110 125110 1251110 1251110 1251110 1251110 1251110 1251110 1251110 125
213.	C.P. 213 DIVERSIO	######################################
4.030	RES NO.4 DIVERSIO	25.25.25.25.25.25.25.25.25.25.25.25.25.2
4.300	RES NO.4 DIV REQU	25.25.25.25.25.25.25.25.25.25.25.25.25.2
5 4.100	RES NO.4 DUTFLOW	10077 110077 120
FL000= 4.090	RES NO.4 INFLOW	1078. 3175.22 474.52 1226.74 1226.74 1226.74 1226.74 1226.74 1226.74 1226.74 1226.74 1226.18 1226.74 1236.18 1236.1
PERIOD 4.24(RES ND.4 LOCAL IN	1222 4477.00 1385.00 1385.00 1365.00 1365.00 1230.00 1
SUMMARY BY 4. 4.120	RES NO.4 Case	68888888888888888888888888888888888888
4.130	RES NO.4 LEVEL	%1881272727274444444444477774444444444444
4.110	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00
	書	ना भी को
	X.	######################################
	운	0111-0246-4-8-0111-0246-4-8-0111-0246-4-8-0111-02
11	æ 24	7-4-4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
CODE= CODE NO= CODE NO=	먪	

RUNZZ (CONTINUED)

213.	C.P. 213 FLOW REB	252.25 252.25 252.25 252.25 252.25 250.00 25
213.	C.P. 213 DIVERSIO	\$
**	RES NO.4 DIVERSIO	742233232323224444444444444444444444444
4	RES NO.4 DIV REQU	7.25.25.25.25.25.25.25.25.25.25.25.25.25.
*	RES NO.4 OUTFLOW	224,25 224,25 227,24,28 227,24,24 227,25,24 237,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,24 238,25,25 238,
4	RES NO.4 INFLOW	222 22 22 22 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25
4.	RES NO.4 LOCAL IN	257.00 1277.00
4.	RES NO.4 CASE	000000000000000000000000000000000000000
₹.	RES NO.4 Level	88888888888888888888888888888888888888
₹	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00
	DY MO YR DW	
FOC NO=	PER	######################################

RUN22 (CONTINUED)

213.	C.P. 213 FLOW REG	2968.91 1062.59 1062.59 150.00	51703.32	2958.81	150.00	101.00	430.86	12.00
213.	C.P. 213 DIVERSIO	28.52.22.22.22.22.22.22.22.22.22.22.22.22.	-3739.43	-28.76	-35.96	1.00	-31.16	3.00
4	RES NO.4 DIVERSIO	172 173 173 173 173 173 173 173 173 173 173	18697.15	179.78	143.82	3.00	155.81	1.00
4	RES NO.4 DIV REDU	172, 173, 173, 173, 173, 173, 173, 173, 173	18697.15	179.78	143.82	3.00	155,81	1.00
4	RES NO.4 OUTFLOW	874 4058.34 4058.34 1033.83 121.24	47963.89	2924.29	114.04	101.00	399.70	39.00
÷	RES NO.4 INFLOW	871.41 604.79 401.18 1033.18 108.18 43.18 43.18 43.18 728.18 124.18 124.18 124.18 124.18 125.18	47792.85	2921.41	-100.82	101.00	398.27	107.00
4	RES NO.4 LOCAL IN	1044.00 7655.00 1177.00 1177.00 1177.00 1177.00 1177.00 1177.00 1177.00 126.00 126.00 126.00 175.00 175.00 175.00 175.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00 176.00	66490.00	3094.00	43.00	101.00	554.08	107.00
4	RES NO.4 CASE	22222222222222222222222222222222222222	8522.40	213.00	0.03	12.00	71.02	1.00
4	RES ND.4 LEVEL	88888888888888888888888888888888888888	358.49	3.00	2.87	1.00	2.99	40.00
**	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00	713574.85	571500.00	498981.54	1.00	564279.79	40.00
	DY NO YR DW	200403-0-0-121-00040-0-0-121-00040-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	:T//9= MNS	mAX =	" Z	PMAX=	AV6 =	PMIN=
LOC NO=	PER	88447878848848888888888888888888888888						

			₹-		
			DRAW AV REL LOC=	72. 102. 108. 125. 125.	3.
		0.05	DRAW		7.
		0 00.9	DRAW DRAW DRAW ST PER LENGTH AV REL LOC=	1930.07 1930.07 1930.07 1930.07 1930.07	1930.07
		2.00 6	RATIO STG/Q	0.1774 0.1774 0.1774 0.1774 0.1774 0.1774	
	YSTEM RUN 23 (120 PERIODS)	0.00	AVG TOP.CON SPILL STOR.	71500. 71500. 71500. 71500. 71500.	71500, 0.1774
	CO	0 00*0	SPILL	222. 224. 226. 361. 267.	397.
	WATER SUPPLY ALL YIELDS* 7-1937 RECORD	0.00 0.	AVG	190. 221. 226. 361. 267.	406.
24	OIR WATER Of ALL Y 1927-1937	0.00	AVE INF.	159. 186. 197. 252. 227.	404.
0 0.024	SINGLE RESERVOIR *OPTIMIZATION OF MONTHLY FLOW 1927	0.00	ROUTING ST PER	1929.10 1929.10 1929.10 1929.10 1929.10	1927.10
DN 5 0.050	SINGLE *DPTIM MONTHL	0.00	NUM. PERIODS	2222222	120
TIMIZATI T. VALUE -33.046		4.90	ERROR (STG)	-16399. -7164. -4540. -4582. 9663.	1700.
9 84 109 109 109	222	37	ERROR Ratio	0.2303 0.1006 0.0538 0.0578 0.1357 0.1357	0.0239
TERMINED I TYPE-OPI CAL PERIO			TRIAL	-02453V	
YIELD DETERMINED I RES-LOC TYPE-OP' NEW CRITICAL PERIDI	*OPSUM		LOCATION	SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES SINGLE RES	SINGLE RES
				134	

ANNUAL ANNUAL REG B DIV 4 4 0. 217. 0. 179. 0. 173. 0. 173. 0. 174. 0. 150.

RUNZ3 (CONTINUED)

213. 213.040	C.P. 213 FLOW REG	1110 12621.2 1
213. 213.030	C.P. 213 DIVERSIO	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
4.030	RES ND.4 DIVERSIO	582725588888888855525588888888888888888
4. 300	RES NO.4 DIV REGU	582725588888888888888888888888888888888
8 4.100	RES NO.4 OUTFLOW	1082 3286.1082 1236.2696 1226.5696 1227.1268 1227.1268 1227.1369 1
FL000= 4.090	RES NO.4 INFLOW	1083 3220 11083 1200 1200 1200 1200 1200 1200 1200 120
PERIOD 4.240	RES NO.4 LOCAL IN	1222. 1268.00 1385.00
SUMMARY BY 4.120	RES NO.4 Case	88888888888888888888888888888888888888
4.130	RES NO.4 LEVEL	######################################
4.110	RES NO.4 EOP STOR	571500.00 571500.00
	蓍	पाने कार्य उपने कार्य का
	YR D	171100000000000000000000000000000000000
	2	5112-484846846112-48484646846112-4846468466112-484646464646464646464646464646464646464
	<u>~</u>	च्या कर्म कर्म कर्म कर्म कर्म कर्म कर्म कर्म
CODE=	PER	44433333333333333333333333333333333333

RUN23 (CONTINUED)

213.	C.P. 21 FLOW RE	2519.000.000.000.000.000.000.000.000.000.0
213.	C.P. 213 DIVERSIO	<u> </u>
₹	RES NO.4 DIVERSIO	27.882323232323388.7.282323232323232323232323232323232323232
4	RES NO.4 DIV REQU	7.7.882323232323232323232323232323232323232
4	RES NO.4 OUTFLOW	2222.28 2
4.	RES NO.4 INFLOW	2865.77 2865.77 2865.77 2865.77 2865.77 2865.23 286
4	RES NO.4 LOCAL IN	804.00 1455.00 1205
4	RES NO.4 CASE	00000000000000000000000000000000000000
4.	RES NO.4 LEVEL	888888847476444444444444444444444444444
4	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00
	*	
	œ.	######################################
	DV MO	464286912120046426869124004642459124124141414141414141414141414141414141
#	PER 1	######################################
397	_	

RUNZ3 (CONTINUED)

213.	C.P. 213 FLOW REB	444.28 454.18 454.18 156.00 150.00 15	52286.34	2964.18	135.39	101.00	435.72	40.00
213.	C.P. 213 DIVERSIO	22-22-22-22-22-22-22-22-22-22-22-22-22-	-3594.02	-27.65	-34.56	1.00	-29.95	3.00
4	RES NO.4 DIVERSIO	128.23.23.23.23.23.23.23.23.23.23.23.23.23.	17970.12	172.79	138.23	3.00	149.75	1.00
*	RES NO.4 DIV REQU	128.23.23.23.23.23.23.23.23.23.23.23.23.23.	17970.12	172.79	138.23	3.00	149.75	1.00
₹	RES NO.4 OUTFLOW	881.10 255.11.22.35 1039.68 1039.68 1039.68 1022.35 1022.35 1022.35 1022.35 1022.35 1030.68 10	48692.32	2931.00	100.84	101.00	405.77	40.00
4	RES NO.4 INFLOW	878 406.0.95 1038.77 113.77 113.77 129.28	48519.88	2928.12	-95.23	101.00	404.33	107.00
4	RES NO.4 LOCAL IN	1044.00 763.00 1177.00	66490.00	3094.00	43.00	101.00	554.08	107.00
4	RES ND.4 CASE	20000000000000000000000000000000000000	8522.40	213.00	0.03	12.00	71.02	1.00
4.	RES NO.4 LEVEL	89999888898989888888888888888888888888	348.12	3.00	2.00	1.00	2.90	40.00
•	RES NO.4 EOP STOR	571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00 571500.00	753939.36	571500.00	502000.00	1.00	564616.16	40.00
	MO YR DW	20040-0-0-0-10-0040-0-0-10-0040-0-0-0-0-0	SUM =67753	#AX ==	" X	PMAX=	AV6 =	PMIN=
=ON OCT	PER DY	20100000000000000000000000000000000000						

RUN24 - SUMMARY OUTPUT

RESERVOIR OPERATION BY PERIOD

CUM TIME= 1		CUM	TIME=	5
*ROPER 1	*ROPER 5			
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 26B. 305. 100. DUTFLOW 171. 193. 54. EOP STOR 3330000.3760000.1540000. CASE= 0.03 0.03 0.03 LEVEL 5.000 5.000 5.000 PCT FC 0.00 0.00 0.00 EQ LEVEL 5.000 5.000 5.000	RES NO= TITLE= DIV Q INFLOW OUTFLOW EOP STOR CASE= LEVEL PCT FC EQ LEVEL	RES1 0. 21. 21. 3330000.33 0.03 5.000 0.00 5.000	RES2 18. 13. 127. 322384.1 4.00 4.005 0.00 4.005	3 RES3 7. 12. 12. 540000. 0.03 5.000 0.00 5.000
CUM TIME= 2		CUM	TIME=	6
*ROPER 2	*ROPER 6			
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 230. 345. 78. OUTFLOW 230. 345. 78. EOP STOR 3330000.3760000.1540000. CASE= 0.03 0.03 0.03 LEVEL 5.000 5.000 5.000 PCT FC 0.00 0.00 0.00 EQ LEVEL 5.000 5.000 5.000	RES NO= TITLE= DIV Q INFLOW OUTHOW EOP STOR CASE= LEVEL PCT FC EQ LEVEL	RES1 0. 7. 7. 3330000.30 0.03 5.000 0.00 5.000	2 RES2 28. -17. 94. 21130.1 4.00 3.321 0.00 3.833	3 RES3 9. 3. 5B. 393961. 4.00 3.321 0.00 3.321
CUM TIME= 3		CUM	TIME=	7
*ROPER 3	*ROPER 7			
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 211. 317. 66. OUTFLOW 211. 317. 66. EOP STOR 3330000.3760000.1540000. CASE= 0.03 0.03 0.03 LEVEL 5.000 5.000 5.000 PCT FC 0.00 0.00 0.00 EQ LEVEL 5.000 5.000 5.000	RES NO= TITLE= DIV Q INFLOW OUTFLOW EOP STOR CASE= LEVEL PCT FC EQ LEVEL	RES1 0. 4. 70. 3104595.29 0.05 3.B33 0.00 3.B33	RES2 21. 71. 114. 11368.1 4.00 3.071 0.00 3.646	RES3 7. 4. 25. 340328. 4.00 3.071 0.00 3.071
CUM TIME= 4		CUM	TIME=	8
*ROPER 4	*ROPER 8			
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 9. 6. INFLOW 20. 22. 20. OUTFLOW 20. 71. 20. EQP STOR 3330000.3630400.1540000. CASE= 0.03 4.00 0.03 LEVEL 5.000 4.705 5.000 PCT FC 0.00 0.00 0.00 EQ LEVEL 5.000 4.705 5.000	RES NO= TITLE= DIV Q INFLOW OUTFLOW EOP STOR CASE= LEVEL PCT FC EQ LEVEL	RES1 0. 4. 78. 2851816.29 0.05 3.646 0.00 3.646	RES2 7. 93. 63. 92730.13 4.00 3.256 0.00 3.550	RES3 2. 8. 11. 332292. 0.00 3.034 0.00 3.034

RUN24 (CONTINUED)

CUM TIME= 9	CUM TIME= 12
*ROPER 9	*ROPER 12
RES ND= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 4. 56. 11. OUTFLOW 54. 52. 11. EOP STOR 2722535.3002779.1332292. CASE= 0.05 4.00 0.00 LEVEL 3.550 3.279 3.034 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.550 3.483 3.034	RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLDW 15. 8. 24. OUTFLOW 0. 14. 11. EOP STOR 2580018.3074793.1384508. CASE= 0.00 0.00 0.00 LEVEL 3.444 3.443 3.286 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.444 3.444 3.286
CUM TIME= 10	CUM TIME= 13
*ROPER 10	*ROPER 13
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 6. 43. 11. OUTFLOW 40. 53. 11. EOP STOR 2632611.2974853.1332292. CASE= 0.05 4.00 0.00 LEVEL 3.483 3.216 3.034 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.483 3.418 3.034	RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 47. 71. 34. OUTFLOW 47. 44. 11. EOP STOR 2579439.3147689.1448112. CASE= 0.05 4.00 0.00 LEVEL 3.444 3.608 3.573 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.444 3.484 3.573
CUM TIME= 11	CUM TIME= 14
*ROPER 11	*ROPER 14
RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 17. 58. 20. OUTFLOW 50. 15. 11. EOP STOR 2543730.3090518.1355059. CASE= 0.05 4.00 0.00 LEVEL 3.418 3.478 3.140 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.418 3.433 3.140	RES NO= 1 2 3 TITLE= RES1 RES2 RES3 DIV Q 0. 0. 0. INFLOW 59. 30. 31. OUTFLOW 0. 20. 22. EOP STOR 2732367.3174735.1469018. CASE= 0.00 4.00 4.00 LEVEL 3.557 3.670 3.670 PCT FC 0.00 0.00 0.00 EQ LEVEL 3.557 3.585 3.670